CALL FOR BIDS

City of Mobile Alabama– Cathodic Protection for Bulkheads
155 and 201 South Water Street
Mobile, Alabama 36602
CT-018b-21

Notice is hereby given that the City of Mobile will receive sealed bids for the above stated project on Wednesday, March 22, 2023, no later than 2:15 local time. Bidders shall insert sealed Bids into a receptacle, marked "City of Mobile Bids", located in the elevator lobby outside the office of the City Clerk Office, 9th Floor South Tower, Government Plaza, 205 Government Street, Mobile, Alabama 36602. The same will be publicly opened and read at 2:30 PM in the Atrium Lobby of Government Plaza. Additional bidding instructions are detailed in the project manual.

A pre-bid conference shall be held at the site at 1:30 PM local time on Thursday, March 9, 2023. Meet at the lighthouse in the parking lot of the GulfQuest Maritime Museum. A representative of the Bidder is encouraged to be present at the meeting. However, if no representative can be present in person, the Bidder shall contact the Project Manager at 251-208-7633, at least 24 hours prior to the meeting, to coordinate attendance of the meeting by conference call. Bidders are required to participate in the Pre-Bid Conference, visit the site prior to submitting a Bid and include all costs associated with the project in their Bids. This project is Tax Exempt.

Bid Documents will be on file Monday, February 27, 2023 and may be examined and obtained from the following location:

www.cityofmobile.org/bids/

Disadvantaged Business Enterprise participation may be required. A Directory of DBE Vendors can be found at the following location:

https://workwith.cityofmobile.org/

THE CITY OF MOBILE

MOBILE, ALABAMA

City of Mobile, Alabama Cruise Terminal
&
GulfQuest National Maritime Museum of the Gulf of Mexico

CATHODIC PROTECTION for BULKHEADS

155 thru 201 South Water Street, Mobile, Alabama 36602
CT-018b-21

City of Mobile, Alabama
Architectural Engineering Department
P. O. Box 1827
Mobile, AL 36633-1827
(251) 208-7454

February 27, 2023

Bid Date: March 22, 2023

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SECTION 00100
INVITATION TO BID

You are invited to submit a sealed bid for construction of the following facility:

PROJECT NAME:	Cruise Terminal & GulfQuest Maritime Museum Cathodic Protection for Bulkheads
PROJECT LOCATION:	155 thru 201 South Water Street, Mobile, Alabama 36602
PROJECT NUMBER:	CT-018b-21

1 BID DATE:

A. Sealed Bids will be received and clocked in until 2:15 PM local time, Wednesday, the 22nd day of March, 2023. Bidders shall insert sealed Bids into a receptacle, marked "City of Mobile Bids", located in the elevator lobby outside the office of the City Clerk Office, 9th Floor South Tower, Government Plaza, 205 Government Street, Mobile, Alabama 36602.

B. All Bids not clocked in at the City Clerk's Office prior to the time specified, or Bids received after the specified time, will be automatically rejected and returned immediately, unopened.

C. Bids will be publicly opened and read at 2:30 PM local time, in the Atrium Lobby of Government Plaza.

2 SPECIFICATIONS AND DRAWINGS:

A. Specifications and Drawings are on file and may be examined and obtained from the following location: https://www.cityofmobile.org/bids/

B. Bidders shall use complete sets of Bid Documents in preparing their bid. Neither the Owner nor Architect/Engineer assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.

C. Addenda will be issued via e-mail to all Pre-Bid Conference attendees and posted on the City of Mobile Bid Site: https://www.cityofmobile.org/bids/

D. This is a tax exempt project and shall be certified by the requirements of the Alabama Department of Revenue. Bidders shall complete the Sales Tax Form C-3A and include it as an attachment to their Bid Form (see Section 00400).

E. Product Substitutions must be pre-approved before the bid (see Section 01635 for requirements).

3 BID SURETY: Required on Bids $10,000.00 or more

A. A Cashier's Check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond payable to Owner, City of Mobile, in the amount of 5% of the Base Bid, but in no event more than $10,000.00 is required to accompany Bid.

B. Bid Bond must be issued by a Surety licensed to do business in the State of Alabama. Bidder shall require the attorney in fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

C. No Bid may be modified, withdrawn, or canceled for a period of ninety (90) days after the time designated above for receipt of bids.

D. The City of Mobile will have ninety (90) days from the bid opening date to award contract.

4 SURETY QUALIFICATIONS:

A. A Surety authorized to do business in the State of Alabama must issue Bonds.

B. If the Base Bid is $50,000 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.

5 IRREGULARITIES AND REJECTION:

A. The City of Mobile reserves the right to waive irregularities in the Bid and in Bidding, and to reject any or all Bids.

6 BIDDER QUALIFICATIONS:

A. Bids for Work costing $50,000 or more must be licensed pursuant to current Alabama law and of classifications compliant with the State of Alabama Licensing Board for General Contractors. Note that if the contract amount is $10,000 or greater, both a Performance Bond and a Labor and Material Payment Bond shall be required. **Before Bidding, Contractor shall verify their license classification of their General Contractors license with the State of Alabama Licensing Board for General Contractors to verify classification is acceptable to perform 51% of the Scope of Work.**

B. In case of a joint venture of two or more Contractors, the amount for the bid shall be within the maximum bid limitations as set by the State of Alabama Licensing Board for General Contractors of at least one of the partners to the joint venture.

7 NON-RESIDENT CONTRACTORS:

A. Except for contracts funded in whole or part with funds received from a federal agency, preference shall be given to resident Contractors on the same basis as the nonresident Contractor’s state awards contracts to Alabama Contractors bidding in similar circumstances.

B. Nonresident Bidders shall, prior to submitting a bid, be registered with the Alabama Secretary of State and the Alabama Department of Revenue. Provide the Secretary of State Business “Entity ID Number” on the Bid Form in the space provided.

8 MANDATORY PRE-BID CONFERENCE:

A. A Pre-Bid Conference shall be held on **Thursday, March 9, 2023 at Mobile, Alabama Cruise Terminal, meeting in the parking lot by the Lighthouse, 201 South Water Street, at 1:30 PM local time.** The conference will include a walkthrough of the site location. A representative of the Bidder is encouraged to be present at the meeting.

However, if no representative can be present in person, the Bidder shall contact the Project Manager at 251-208-7633, at least 24 hours prior to the meeting, in order to coordinate attendance of the meeting by conference call. Bidders are required to participate in the Pre-Bid Conference, visit the site prior to submitting a Bid and include all costs associated with the project in their Bids.

B. Minutes of this conference will be made as an Addendum for the project, and posted to the City Bid website: https://www.cityofmobile.org/bids/

9 BID SUBMITTAL:

A. Bids must be submitted on copies of the Bid Forms furnished in the bidding documents.

B. Bid, with Bid Security, Sales Tax Form C-3A, City of Mobile Subcontracting and Major Supplier Plan and other supporting data specified, shall be contained in a sealed, opaque envelope, approximately 9x12 inches or larger and be marked on the outside with the words "**SEALED BID FOR CITY OF MOBILE ALABAMA – CATHODIC PROTECTION for BULKHEADS - PROJECT NUMBER: CT-018b-21".**

C. The Bid envelope shall be clearly addressed to the Owner as indicated on the Bid Form and include the bid date, the name, address and State License number and classification of the Bidder issued by the State of Alabama Licensing Board for General Contractors.

D. All Bids of $50,000 or more must include the bidder's State of Alabama General Contractor's License information written on the outside of the bid envelope. Any bid submitted without such license information may be rejected and returned to the bidder unopened.

E. In addition, in large letters on both front and back of envelope, write the following: **DO NOT OPEN UNTIL TWO-THIRTY PM, MARCH 22, 2023**.

F. For a bid to be valid it shall be delivered at designated location prior to time and date for receipt of Bids indicated in INVITATION TO BID, or prior to any extension thereof issued to Bidders. After that time no Bid will be received or withdrawn.

G. When sent by mail, preferably special delivery, express service, or registered mail, the sealed Bid, marked as indicated above, shall be enclosed in another envelope for mailing such that the exterior mailing container or envelope may be opened without revealing the contents of the Bid. It is the Contractors responsibility to assure delivery of the bid to the City Clerk's Office prior the time and date established.

10 EQUAL OPPORTUNITY:

A. The City of Mobile, Alabama is an Equal Opportunity Employer and requires that all Contractors comply with the Equal Employment Opportunity laws and the provisions of the Bid Documents in this regard.

B. The City of Mobile also encourages and supports the utilization of Minority Business Enterprises on these and all other publicly solicited Bids, and shall be in compliance with the City of Mobile's Minority Utilization Plan as adopted by the City Council.

C. Contractor shall provide an appropriately completed copy of the "City of Mobile Subcontracting and Major Supplier Plan" in the envelope with their Bid Form. Form shall document DBE Subcontractors participating in the project and, should the total % of DBE participation not meet the 15% minimum, all efforts to obtain DBE Subcontractors shall be documented on or attached to the DBE Form when submitted. During construction, contractors are required to submit a "DBE Utilization Report" with every Pay Application.

D. Contractors should contact the City of Mobile, Supplier Diversity Manager for assistance with DBE Subcontractor information and any questions regarding the DBE Compliance Forms. Contact Archnique Kidd at 251-208-7967.

E. A Directory of DBE Vendors can be found at the following location: https://workwith.cityofmobile.org/

11 ADDITIONAL BIDDING PROCEDURES:

A. Refer to the complete information in the Bid Documents prior to submitting a bid. Additional Bidding Procedure information is contained therein, particularly in the specification Section 00200 "Instructions to Bidders - AIA Document A701" and in the specification Section 00300 "Supplementary Instructions to Bidders".

12 STATE OF ALABAMA IMMIGRATION ACT

"The State of Alabama, under the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Alabama Code Section 31-13-1, et. Seq., requires:

A. That the Contractor shall be enrolled in the E-Verify Program, shall participate in that Program during the performance of the contract, and shall verify the immigration status of every employee who is required to be verified, according to the applicable federal rules and regulations; and

B. That it will attach to the contract the company's documentation of enrollment in E-Verify.

C. The subcontractor must also enroll in the E-Verify Program prior to performing any work on the contract and shall attach to its sworn affidavit documentation establishing that the subcontractor is enrolled in the E-Verify Program.

13 PUBLIC CONTRACTS WITH ENTITIES ENGAGING IN CERTAIN BOYCOTT ACTIVITIES

A. By signing this contract, Contractor further represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

END OF SECTION 00100

SECTION 00200
INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

A. This section includes the INSTRUCTIONS TO BIDDERS, AIA Document A701to be utilized with the Owner's most recent modifications and which shall be used in conjunction with the entire Bid Documents and Section 00300 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS for this project.

AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

The City of Mobile Alabama
Cathodic Protection for Bulkheads
CT-018b-21

THE OWNER:
(Name, legal status, address, and other information)

City of Mobile Architectural Engineering Department
PO Box 1827
Mobile, Alabama 36633-1827

THE ARCHITECT:
(Name, legal status, address, and other information)

Barter & Associates, Inc
1614 Government Street
Mobile, Alabama 36633

TABLE OF ARTICLES

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

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

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

ARTICLE 1 DEFINITIONS

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

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

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

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

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

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

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

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents. A Bidder must be licensed by the State Licensing Board for General Contractors if the amount for the Contract exceeds the amount established by said Board.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work. A Sub-bidder performing Work must be licensed by the State Licensing Board for General Contractors if the Sub-bidders' contract amount exceeds that established by said Board.

§ 1.10 A non-resident Bidder or Sub-bidder is one who

a. Is neither organized nor existing under the laws of the State of Alabama
b. nor maintains its principal place of business in the State of Alabama.

A non-resident contractor who has maintained a permanent branch office within the State of Alabama for at least five (5) continuous years shall not thereafter be deemed to be a non-resident contractor so long as such contractor continues to maintain a branch office within Alabama.

ARTICLE 2 BIDDER'S REPRESENTATIONS

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

.1 the Bidder has read and understands the Bidding Documents;

.2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;

.3 the Bid complies with the Bidding Documents;

.4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;

.5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and

.6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

§ 2.2 The Bidder is licensed by the State Licensing Board for General Contractors and the amount Bid does not exceed the Bid Limit stipulated in the Bidder's License and by the City of Mobile.

§ 2.3 Each and every Contractor belonging to or comprising a part of any entity that is bidding as a joint venture or association involving two or more contractors is licensed by the State Licensing Board for General Contractors and that the amount Bid does not exceed the Bid limit stipulated in at least one of their licenses.

§ 2.4 Any non-resident Bidder is authorized by the Secretary of State of Alabama and is registered with Alabama Department of Revenue to transact business in Alabama.

§ 2.5 Joint Ventures or Associations of Contractors, whether the same are Bidders or Subcontractors of Bidders, will remain in existence until all insurance and warranty requirements for the Project have been fulfilled.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.
(Paragraphs deleted)
§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

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

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

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

§ 3.2 Modification or Interpretation of Bidding Documents

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

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least five (5) calendar days prior to the date for receipt of Bids.
(Paragraphs deleted)

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

§ 3.2.4 The Contract Drawings and Specifications are intended to cooperate and agree, but should conflicts or difference be found to exist between the requirements within either and clarification has not been obtained in accordance with the above procedure prior to Bidding, then the most costly and/or restrictive interpretation by the decision of the Architectural Engineering Department Director will be final.

§ 3.3 Substitutions

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

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least seven (7) calendar days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

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

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

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

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

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

§ 3.3.6 See Division One Section "Substitution Procedures", if included in Specification.

§ 3.4 Addenda

§ 3.4.1 Addenda will be
(Paragraphs deleted)
posted the following location: https://www.cityofmobile.org/bids/

§ 3.4.2 Addenda will be available where Bidding Documents are on file: https://www.cityofmobile.org/bids/

§ 3.4.3 Addenda will be issued no later than five (5) calendar days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents. No bid will be considered unless made out and submitted on a copy of the Bid Form, Section 00400. Additional Bid Forms will be furnished to prospective Bidders upon request.

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

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

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

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

Unit Prices: Supply requested Unit Prices where shown on the Bid Form, such Unit Prices shall be used to adjust the Contract Amount where the quantities shown on the Drawings and/or Specifications do not reflect amounts required for completion of the work. Where Completion of the Work requires quantities in excess of those shown on the drawings and specifications, unit prices shall be used to compute an extra payment to the Contractor. Where completion of work required quantities less than those on the Drawings and/or specifications, unit prices shall be used to compute a credit to the Owner.

Contingency Allowance: As shown on the Bid Form, Contractor shall add the amount of the contingency allowance to the Base Bid to derive the Total Bid. The contingency allowance shall cover cost of material, labor, overhead, profit and other expenses for complete installation of items of additional work as required for a complete functional project. The contingency allowance shall be used to fund unforeseen conditions not covered in the construction documents and shall be subject to the provisions of change orders. Upon the completion of work any unused portion of the contingency allowance shall be credited to the Owner by change order.

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

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

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

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security if so required in the Bidding Documents:
(Insert the form and amount of bid security.)

The Bidder shall provide a Bid Security in the form of a cashier's check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond. Bid Security is required for bids exceeding $10,000.00. Bid Security shall be in the amount of 5% of the TOTAL BID, but in no event more than $10,000.00.

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

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

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected.

§ 4.2.5 Bonds must be issued by a Surety authorized to do business in the State of Alabama. A Performance Bond and a Labor and Material Payment Bond are required for projects exceeding $10,000.00. If the project cost is $50,000.00 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.

§ 4.3 Submission of Bids

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

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

Submission of Bid shall be as stated in Section 00100, Invitation to Bid, Paragraph 9, titled "Bid Submittal".

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

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

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

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

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

(Paragraphs deleted)
ARTICLE 5 CONSIDERATION OF BIDS
§ 5.1 Opening of Bids
If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

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

§ 5.3 Acceptance of Bid (Award)
§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 The Owner shall accept Alternates in the order listed on the Bid Form to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION
§ 6.1 Contractor's Qualification Statement
Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

(Paragraphs deleted)
§ 6.3 Submittals
§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, within three (3) calendar days or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

.1 a designation of the Work to be performed with the Bidder's own forces;

.2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and

.3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

.4 The name of the Project Superintendent and Project Manager together with the resume of qualifications of each;

.5 Nonresident Contractor shall submit a letter from an attorney as required by Subparagraph 11.1.2 below and;

.6 Engineering Firm or Testing Laboratory for testing as specified.

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

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

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

§ 6.3.5 The Contractor shall, within ten (10) calendar days of receiving Contract Forms for signature, furnish to the Owner the following items, along with the signed contract, or the Bid Security will be forfeited automatically without further delay:

.1 A Signed Construction Contract;
.2 Performance Bond and Labor and Material Payment Bond (originals) on all Bids over $10,000.00;
.3 Certificate of Insurance and copy of Builder's Risk Policy (original), as identified in the specifications;
.4 Schedule of Values; and
.5 Federal Immigration Law Compliance: E-Verify enrollment documentation.

§ 6.3.6 The Bid Check or Bond of the three (3) lowest Bidders will not be returned until after the Construction Contract is executed.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

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

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

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

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

§ 7.1.4 A Surety authorized to do business in the State of Alabama shall issue Performance Bond and Labor and Material Payment Bond, as required by the Contract Documents. If the project cost is $50,000.00 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc.

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than ten (10) calendar days from receiving the Construction Contract forms for signature.

§ 7.2.2 The bonds shall be written on City's Performance Bond and Labor and Material Payment Bond forms.

§ 7.2.3 The bonds shall be dated by the City Clerk upon execution of the Contract.

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

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

§ 8.1.1 AIA Document A101, Standard Form of Agreement Between Owner and Contractor where the Basis of Payment is a stipulated sum will be edited electronically and include the standard signatures as required by the City of Mobile.

ARTICLE 9 NONDISCRIMINATION

§9.1.1 Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities. Contractor shall provide a completed copy of the City of Mobile Subcontracting and Major Supplier Plan with the Bid Form.

ARTICLE 10 USE OF DOMESTIC PRODUCTS

§ 10.1.1 Section 39-3-1 Code of Alabama provides that the Contractor agrees, in the execution of this contract, to use material supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if available at reasonable prices, and that breach of this agreement by the Contractor shall result in the assessment of liquidated damages in an amount not less than $500 nor more than 20 percent of the gross amount of the contract price.

§ 10.1.2 Section 39-3-4, Code of Alabama provides that the Contractor for a municipal construction project, financed by the State of Alabama or any political subdivision thereof, is required to use steel produced within the United States. If the Contractor violates the requirement to use domestic steel, this contract will automatically be revoked and the contractor shall not be entitled to any set-off or recoupment for labor or materials used up to the time of revocation.

ARTICLE 11 PREFERENCE TO RESIDENT CONTRACTORS

§ 11.1.1 Except for contracts funded in whole or in part with funds received from a federal agency, preference shall be given to Alabama resident contractors, and a nonresident bidder domiciled in a state having laws granting preference to local contactors shall be awarded the contracts only on the same basis as a the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances. In the letting of public contracts in which any state, county or municipal funds are utilized, resident contractors in Alabama, be they corporations, individuals or partnerships, are to be granted preference over nonresidents in awarding of contracts in the same manner and to the same extent as provided by the laws of the state of domicile of the nonresident.

§ 11.1.2 A successful nonresident bidder shall include in his post bid submittals a written opinion of an attorney at law licensed to practice law in such nonresident bidders' state of domicile, as to the preferences, if any or none, granted by the law of that state to its own business entities whose principal places of business are in that state in the letting of any or all public contracts.

ARTICLE 12 PRE-BID REQUIREMENTS

§ 12.1 STATE OF ALABAMA CONTRACTORS LICENSE

§ 12.1.1 If the Project total bid amount is $50,000 or more, a license issued by the State of Alabama Licensing Board for General Contractors is required prior to submitting a bid and the licensed classification and bid limits must cover the type

of work in this project. See Invitation to Bid, Section 6 "Bidder Qualifications".

§ 12.2 A NONRESIDENT BIDDER

§ 12.2.1 Every bidder shall be registered with the Department of Revenue and with the Alabama Secretary of the State prior to bidding. The Secretary of State's "Business Entity ID" registration number shall be included on the bid form.

ARTICLE 13 POST-BID REQUIREMENTS

§ 13.1 CITY CONTRACTOR'S LICENSE

13.1.1 A City of Mobile Contractors License is required and must be current before the Contractor signs the Contract. Contractor must qualify and post $10,000.00 Surety Bond with the Land Use/Code Administration Department before a Contractors License will be issued by the Revenue Department. Information on the City Contractors License may be obtained by writing or calling:

Land Use/Code Administration
P. O. Box 1827
Mobile, Alabama 36633-1827
Phone: 251.208.7421

Revenue Department
P. O. Box 1827
Mobile, Alabama 36633-1827
251.208.7461

13.2 E-VERIFY DOCUMENTATION

§ 13.2.1 The Contractor agrees that it shall comply with all of the requirements of the State of Alabama Immigration Law (Act. No. 2011-535 as amended by Act. No. 2012-491, Alabama Code (1975) Section 31-13-1, et. Seq., See Section 31-13-9), and the provisions of said Law, including all penalties for violation thereof, are incorporated therein.

13.3 PUBLIC CONTRACTS WITH ENTITIES ENGAGING IN CERTAIN BOYCOTT ACTIVITIES

§ 13.3 The Contractor represents and agrees that it is not currently engaged in, nor will engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

(Table deleted)(Paragraphs deleted)(Paragraphs deleted)

SECTION 00300

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

THE ATTENTION OF ALL BIDDERS IS CALLED TO THE FOLLOWING INSTRUCTIONS AND CONDITIONS:

I. BIDDING DOCUMENTS:

A. Bidders may obtain complete sets of Bid Documents from the City of Mobile Bid Site: https://www.cityofmobile.org/bids/

B. Bidders shall use the complete set of documents in preparing their bid. The City of Mobile assumes no responsibility for errors or misinterpretations resulting from use of an incomplete set of documents.

Bidders shall use the complete set of documents in preparing their bid. Neither the City of Mobile nor the Engineer assume responsibility for errors or misinterpretations resulting from use of an incomplete set of documents.

2. INTERPRETATION OF BID DOCUMENTS:

A. Bidders shall carefully study and compare the Bidding Documents and compare various components of the Bidding Documents with each other, shall examine the site and local conditions and shall at once report to the Project Manager any errors, inconsistencies or ambiguities discovered.

B. Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Project Manager by 3:00 PM at least five (5) calendar days prior to the date for receipt of Bids. E-mail requests are required and should be addressed to cindy.klotz @cityofmobile.org. Interpretations, corrections and changes to the Bidding Documents will be made by a formal, written Addendum. Interpretations, corrections and changes to the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely on them.

C. Substitution Requests must be made at least seven (7) calendar days prior to date for receipt of Bids. See also AIA Document A701, Invitation to Bid A701 Article 3.3.2.

D. Any discrepancy not resolved prior to Bidding shall be bid by the Contractor to provide for the most costly and/or restrictive interpretation of the documents.

3. BIDDING PROCEDURES:

A. No Bid will be considered unless made out and submitted on a copy of the Bid Form as set forth by the Bid Documents.

B. All blanks on the Bid Form shall be legibly executed in a non-erasable medium.

C. Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

D. Interlineations, alterations and erasures must be initialed by the signer of the Bid.

E. All requested Alternates, Unit Prices and Allowances shall be bid as indicated on the Bid Form and the Bid Documents.

F. Addenda shall be considered as a part of the Bid Documents and those issued prior to the opening of Bids shall be acknowledged on the Bid Form and any adjustment in cost shall be included in the Contract Sum.

4. BID SECURITY:

A. A Cashier's Check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or Bid Bond payable to Owner, City of Mobile, in the amount of 5% of the Base Bid, but in no event more than $10,000.00, must accompany bid. By submitting a Bid Security, the Bidder pledges to enter into a Contract with the City of Mobile on the terms stated in the Bid, and will, if required, furnish bonds covering faithful performance of the Contract and required insurance certificate. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds or insurance or any other required document, the amount of the Bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

B. Bid Bond shall be valid for a minimum of ninety (90) calendar days from the date of the Bid. The Owner reserves the right to retain the security of all Bidders until the successful Bidder enters into the Contract or until ninety (90) calendar days after Bid opening, whichever is sooner.

C. Bonds must be issued by a Surety licensed to do business in the State of Alabama. If the project cost is more than $50,000.00 the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.

D. Power of Attorney is required for all Bonds.

E. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment of retainage being made to the Contractor.

5. EXAMINATION OF DOCUMENTS AND SITE WORK:

A. Before submitting a Bid, Bidders should carefully examine the Bid Documents, visit the site of the Work, including attendance at the MANDATORY Pre-Bid conference, fully inform themselves as to existing conditions and limitations, and include in the Bid a sum to cover the cost of all items included in the Contract and necessary to perform the Work. The submission of a Bid will be

considered as conclusive evidence that the Bidder has made such examination.

6. SUBMISSION OF BIDS:

   A. Bid, with Bid Security, Sales Tax Form C-3A, City of Mobile Subcontracting & Major Supplier Plan and other supporting data specified, shall be contained in a sealed, opaque envelope, approximately 9 x 12 inches or larger and be marked on the outside with the words "SEALED BID FOR MOBILE, ALABAMA CRUISE – CATHODIC PROTECTION for BULKHEADS - PROJECT NUMBER: CT-018b-21", the Bid Date, and Contractor's name, address, and City of Mobile Business License number. And, if bidding in an amount $50,000 or greater, the State of Alabama General Contractor's License number and classification of the Bidder issued by the State of Alabama Licensing Board for General Contractors shall be written on the envelope.

   B. Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date specified in the Invitation to Bid, or as modified by Addendum, will not be considered. Late Bids will be returned to the Bidder unopened.

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

   D. Oral, telephonic, facsimile or other electronically transmitted bids will not be considered.

7. MODIFICATION OR WITHDRAWAL OF BIDS:

   A. A Bid may not be modified, withdrawn, or canceled by the Bidder for a period of ninety (90) calendar days following the time and date designated for receipt of bids, and each Bidder so agrees in submitting a Bid.

8. CONSIDERATION AND AWARD OF BIDS:

   A. At the discretion of the City, the properly identified Bids received on time will be publicly opened and will be read aloud.

   B. The City shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid security or a Bid which is in any way incomplete or irregular is subject to rejection.

   C. It is the intent of the City to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The City shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the City's judgment, is in the City's best interest.

   D. The award shall be based on the lowest Total Bid for the Base Bid and any allowances, plus any alternates and/or options that may be accepted, as listed on the Bid Form.

9. PROOF OF COMPETENCY OF BIDDER:

   A. Bidders may be required to furnish evidence satisfactory to the City of Mobile that they have sufficient means and experience in the types of work called for to assure the completion of the Contract in a satisfactory manner.

10. SIGNING OF CONTRACT:

   A. The Standard Agreement between the City of Mobile and the Contractor, included herein, shall serve as the Agreement between the City and the Contractor.

   B. The Bidder to whom the Contract is awarded shall, within ten (10) calendar days of receiving the Contract Forms, properly execute and deliver to the Owner, the following items with the signed Agreement:
      (1). Performance Bond and Labor and Material Payment Bond (originals);
      (2). Certificate of Insurance (original) with endorsements to City of Mobile;
      (3). Evidence of enrollment in the E-Verify program.
      (4). Schedule of Values
      (5). Other documentation as required by the Contract Documents.

   C. Failure or refusal to sign the Agreement or to provide Certificates of Insurance in a form satisfactory to the City of Mobile, E-Verify verification, or other required documentation, shall subject the Bidder to immediate forfeiture of Bid Security.

   D. On all documents: City of Mobile Business License, the Alabama Secretary of State Business Identity, the Alabama Secretary of State Certificate of Authority (out of state contractors), E-verify documentation, and ACORD Insurance Form, the Contractor's name shall be EXACTLY the same.

11. NONDISCRIMINATION:

   A. Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, inter alia, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

12. AMERICANS WITH DISABILITIES ACT (ADA):

   A. Bidders shall comply with the provisions of the Americans with Disabilities Act (ADA) of 1990 which prohibits discrimination against individuals with disabilities.

13. USE OF DOMESTIC PRODUCTS:

   A. Section 39-3-1, Alabama Code, 1975, provides that the Contractor agree, in the execution of this Contract, to use materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or

its territories, if available at reasonable prices, and that breach of this Agreement by the Contractor shall result in the assessment of liquidated damages in an amount not less than $500.00 nor more than twenty (20) percent of gross amount of the Contract Price.

14. NON-RESIDENT (OUT OF STATE) CONTRACTORS:

A. Preference to Resident Contractors: Section 39-3-5, Code of Alabama, 1975, provides that a non-resident (out of State) bidder domiciled in a state which grants a preference to local Contractors is to be awarded a public contract on the same basis as the non-resident bidder's state awards contracts to Alabama bidders. Alabama bidders are given a preference to the same extent that a non-resident bidder receives a preference in his home state. A non-resident bidder must include with any written bid documents a written opinion of an attorney licensed to practice in the non-resident bidder's state declaring what preferences, if any, exists in the non-resident's state.

B. Certificate of Authority: All non-resident (out of State) bidders shall be registered with the Alabama Secretary of State and the Alabama Department of Revenue prior to submitting a Bid. Provide the Secretary of State Business "Entity ID Number" on the Bid Form in the space provided.

15. ALABAMA IMMIGRATION ACT:

A. The State of Alabama Immigration Law (Act No. 2011-535 as amended by Act No. 2012-491), requires that Contractors not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. In addition, Contractors are required to enroll in the federal E-Verify program and submit verification of enrollment to the City of Mobile within ten (10) days of receiving the contract forms (see Section 00600).

16. CITY OF MOBILE BUSINESS LICENSE:

A. A City of Mobile Business License is required and must be current at time of contract award and throughout contract period.

17. CITY OF MOBILE CONTRACTOR'S BUSINESS LICENSE:

A. A City of Mobile Contractor's Business License is required and must be current when contractor signs the contract and throughout contract period.

B. Contractor must qualify and post a $10,000 surety bond with the Land Use/Code Administration Department before a Contractor's Business License will be issued by the Revenue Department. Information on the City Contractor's License may be obtained by writing or calling:

Land Use/Code Administration
P.O. Box 1827
Mobile, Alabama 36633-1827
Phone: 251-208-7421

Revenue Department
P.O. Box 1827
Mobile, Alabama 36633-1827
Phone: 251-208-7461

18. CITY OF MOBILE BUILDING PERMIT:

A. A City of Mobile Building Permit is required and shall be obtained from the Land Use/Code Administration Department, but at no cost to the Contractor.

B. Contractor is responsible for ensuring that all inspections are successfully performed in accordance with City of Mobile regulations.

C. Contractor shall fill out his portion of development permits required for sites located in a flood zone.

19. CONSTRUCTION SCHEDULE AND ACCESS:

A. The project shall be completed in two separate phases:

Phase 1: Landside Cathodic Protection shall be completed within seventy (70) calendar days from the date indicated by the Notice to Proceed, anticipated to be on or about May 5, 2023, so an anticipated Phase 1 completion on or about July 14, 2023.

Phase 2: Waterside Cathodic Protection shall begin approximately February 5, 2024 with a separate Phase 2 Notice to Proceed and be completed within 210 calendar days from the date indicated on that Notice to Proceed, approximately September 2, 2024.

B. The Owner will occupy the building during the entire construction period. A schedule of events and a Cruising Schedule is included in the Section 01310 Project Management and Coordination. Contractor may not Work on the site or the Dock on Cruising days.

C. Additionally, starting January 2, 2024, ADELTE will be utilizing the secure dock areas to construct a new seaport boarding bridge and deconstruct the existing Seaport boarding bridge.

D. The winning bidder shall coordinate his initial work schedule and update his continuing work schedule on a weekly basis to accommodate potential alterations to the event schedule, work of other contractors, and cruising schedule. Base bid shall have considered and included time, costs, cleanup, etc associated with the published event and cruising schedule. See section 01310 Project Management and Coordination for other coordination requirements.

E. Contractor shall have access to the Cruise Terminal, as approved by the Owner, but typically Monday through Friday from 7:30 A.M. to 5 P.M. Contractor is directed to coordinate all areas of work and scheduling with the Owner.

F. The Contractor may be allowed additional construction days due to inclement conditions (“rain days”) only as such are appropriately documented and are in excess of the NOAA/National Weather Service average (previous 5 years) for the given month. A “rain day” is defined as more than a “trace” (0.10”) of rain falling within a given 24 hour period. The Contractor shall provide documentation and formally request any “rain days” they feel are legitimately due. Documentation shall be submitted to the Project Manager, in writing, within ten (10) calendar

days of the rain event. Claim shall include documentation of trades adversely impacted and the impacted activities of each trade.

20. SITE CONSIDERATIONS:

A. It is the Contractor's responsibility to carefully remove and store any items not permanently installed within the work areas. We strongly recommend that the Contractor photograph, videotape or in some manner document any features to be removed and their condition, prior to removal.

B. Noise and strong smells shall be isolated or kept to a minimum when adjacent portions of the site are occupied.

C. Contractor shall be responsible to leave the work area and adjacent site clear of equipment and debris, etc. at the end of each work day. All final cleaning is the responsibility of the Contractor and shall be executed prior to acceptance for reuse of any portion of the site.

D. A dumpster and lay down area for Contractor materials and staging may be located at the site and located per the direction of the Owner. The Contractor is responsible for the removal of the dumpster, any storage containers and any security fencing, temporary erosion control (BMPs), etc. as soon as practical after their use by the Contractor or the work is complete.

21. SALES AND USE TAX EXEMPTION:

A. As per the State of Alabama ACT 2013-205, the Alabama Department of Revenue (ADOR) has been granted the authority to issue a "Certificate of Exemption from Sales and Use Tax for Governmental Entities" on construction projects. Therefore, this project shall qualify for State of Alabama Sales and Use Tax Exemptions under this ACT. It is the responsibility of the Bidder to confirm the potential tax exempt status of their bid with the ADOR and include any such savings in their bid, as well as accounting for same on their bid form attachment Sales Tax Form C-3A.

B. The full text of ACT 2013-205 is available on the State of Alabama Building Commission web-site at www.bc.alabama.gov .

22. SUBMISSION OF LIEN WAIVERS AND DBE COMPLIANCE, UTILIZATION REPORTS:

A. At each monthly Application for Payment submitted to the owner, the Contractor shall provide completed "City of Mobile DBE Compliance, Utilization Reports" and lien waivers, including those from Subcontractors and material suppliers.

23. NOTICE OF COMPLETION:

A. For Contracts $50,000 or greater:
Contractor shall provide proof of publication of Advertisement of Completion for four consecutive weeks in a local newspaper, as required in the Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama. This Advertisement shall not begin until the Project has been accepted by the City of Mobile.

B. Notice of Completion advertisement shall read as follows:

STATE OF ALABAMA

COUNTY OF MOBILE

NOTICE OF COMPLETION
In accordance with Chapter 1, Title 39, Code of Alabama, 1975, NOTICE IS HEREBY given that (COMPANY NAME) has completed the contract for City of Mobile Alabama – Cathodic Protection for Bulkheads- CT-018b-21, 155 and 201 South Water Street, Mobile, Alabama 36602. All persons having any claims for labor, material or otherwise in connection with this project should immediately notify the Architectural Engineering Department, City of Mobile, P.O. Box 1827, Mobile, Alabama 36633-1827.

C. Advertisement shall not begin until the Project has been accepted by the City of Mobile as Substantially Complete.

24. CONTRACTOR WARRANTY AND CERTIFICATION:

A. Upon completion of the contract, the Contractor shall certify under oath that all bills have been paid in full.

B. Contractor shall provide a one year Labor and Materials Warranty on company letterhead in addition to other warranties required by the Bid Documents.

25. LIQUIDATED DAMAGES

A. A time charge equal to Two Hundred Fifty Dollars ($250.00) per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted, or any required closeout documents are not acceptably submitted, for more than thirty (30) calendar days after the time specified for the Substantial Completion for the Work, the amount of which shall be deducted by the owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained.

END OF SECTION

SECTION 00400

BID FORM

Copies of the following Bid Forms shall be used. Bids submitted on alternate forms may be rejected. Fill in all blank spaces with an appropriate entry. Bid Form must be signed by an officer of the company and notarized.

TO: City of Mobile, 205 Government St., P.O. Box 1827, Mobile, AL, 36633

REF: PROJECT NO.: CT-018b-21
PROJECT NAME: City of Mobile, Alabama
Cathodic Protection for Bulkheads
PROJECT LOCATION: 155 & 201 South Water Street, Mobile, Alabama

In compliance with the Bid Documents and having carefully and thoroughly examined said documents for the subject Work prepared by the City of Mobile, Architectural Engineering Department and Barter & Associates, Inc. dated February 24,2023; and all Addendum (a) Number(s) _____, dated _____, 2023 (CAUTION: before submitting any bid it is the Bidder's responsibility to check with the Architectural Engineering Department for all Addenda or special instructions that may impact the Bid) thereto, receipt of which is hereby acknowledged, the premises and all conditions affecting the Work prior to making this Proposal, the Undersigned Bidder, hereby

COMPANY NAME:_____

ADDRESS:_____PHONE_____

ALABAMA GENERAL CONTRACTOR LICENSE NO. _____

CITY OF MOBILE BUSINESS LICENSE NO._____

SECRETARY OF STATE OF ALABAMA ACCOUNT NO._____

(Note: Secretary of State Account Number shall be filled in only by non-resident bidders)

(Check one) [ ] (A Corporation) [ ] (A Partnership [ ] (An Individual Doing Business)

hereby proposes to furnish all labor, materials, tools, equipment, and supplies and to sustain all the expenses incurred in performing the Work on the above captioned Project in accordance with the terms of the Contract Documents, and all applicable laws and regulations for the sum listed below. The initial term of the Contract shall be for two (2) separated phases, and extend Four Hundred and Eighty Six (486) calendar days from the date of the initial Notice to Proceed.

Base Bid: $_____

Contingency Allowance: + $ 100,000.00

Total Base Bid: $_____
(Fill in here and in Total Bid below)

TOTAL BASE BID: _____

_____ Dollars, ($ _____.____)
(Amount in Words) (Amount in Figures)

(Note: Show amount in both words and figures. In case of discrepancy, the amount in words shall govern). **Bids shall be provided in whole dollar amount with no cents.**

CONTINGENCY ALLOWANCE: $100,000.00 lump sum Contingency Allowance shall be included in the Total Bid for work related to unforeseen conditions as approved by the Owner.

BID SECURITY: The undersigned Bidder agrees that the attached Bid Security, as a Cashier's Check drawn on an Alabama bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond, made payable to the City of Mobile, in the amount of 5% of the bid amount, but in no event more than $10,000, as the proper measure of liquidated damages which the City will sustain by the failure of the undersigned to execute the Contract. Said Bid Security shall become the property of the City of Mobile as liquidated damages as specified in the Contract Documents.

AMERICANS WITH DISABILITIES ACT (ADA): The undersigned Bidder agrees to fully comply with all requirements of the Americans with Disabilities Act of 1990 and the Amendment Act.

NONDISCRIMINATION: Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

SIGNATURE: If the undersigned Bidder is incorporated, the entire legal title of the company followed by "a corporation" should be used. If Bidder is an individual, then that individual's full legal name followed by doing business as (d/b/a) and name of firm, if any, should be used. If Bidder is a partnership, then full name of each partner should be listed followed by "d/b/a" and name of firm, if any.

Ensure that name and exact arrangement thereof is the same on all forms submitted with this Bid. If a word is abbreviated in the official company name, such as "Co.", then use that abbreviation. If not abbreviated in the official name, spell out.

Bidder agrees not to revoke or withdraw this Bid until ninety (90) calendar days following the time and date for receipt of bids. If notified in writing of the acceptance of this Bid within this time period, Bidder agrees to execute a Contract based on this Bid on the proscribed form within ten (10) calendar days of said notification and to furnish Performance Bond and Materials and Payment Bond as specified.

COMPANY NAME:_____
(Printed or Typed)

BY:_____
(Signature of Company Officer)

COMPANY OFFICER:_____
(Printed or Typed)

TITLE_____ **DATE**_____**, 2023**
(Printed or Typed)

Sworn to and subscribed before me this _____ day of _____2023

_____
Notary Public

Attachments:
1. Bid Security, with Power of Attorney
2. Secretary of State Authorization (Out of state bidders only)
3. Sales Tax Form C-3A
4. Supplier Diversity Subcontracting & Major Supplier Plan

END OF BID FORM

ACCOUNTING OF SALES TAX
ATTACHMENT TO BID FORM SECTION 00400
SALES TAX FORM C-3A

To: City of Mobile **Date:**_____

Name of Project: The City of Mobile, Alabama –
Cathodic Protection for Bulkheads
Project Number: CT-018b-21

SALES TAX ACCOUNTING

Pursuant to Act 2013-205, Section 1(g) the Contractor accounts for the sales tax NOT included in the bid proposal form as follows:

	ESTIMATED SALES TAX AMOUNT
BASE BID:	$_____

Failure to provide an accounting of sales tax shall render the bid non-responsive. Other than determining responsiveness, sales tax accounting shall not affect the bid pricing nor be considered in the determination of the lowest responsible and responsive bidder.

Legal Name of Bidder_____

Mailing Address_____

***By (Legal Signature)**_____

*Name (type or print)_____ (Seal)

*Title_____

Telephone Number_____

OFFICE OF SUPPLIER DIVERSITY

CITY OF MOBILE

Subcontracting and Major Supplier Plan

Contact Office of Supplier Diversity for questions on completing this form.
Via emai:Archnique.kidd@cityofmobile.org
251.208.7967
205 Government Street, 5th Floor

Bidders and Proposers – Please complete and submit these forms as required by your City of Mobile Bid or Proposal Specification.

If you are submitting a proposal in response to a Request for Qualifications, Request for Proposal, or other solicitation ("Solicitations") issued by the City of Mobile, the bid specification may require you to utilize disadvantaged business enterprise ("DBE") subcontractors and suppliers. If DBE participation is required, you must complete and submit these forms with your proposal. If required, failure to submit this form will render your bid non-responsive. NOTE: To satisfy participation requirements for a federally funded project, you must utilize DBEs certified through the Alabama Unified Certification Program.

If DBE participation is required, and you fail to satisfy the participation requirement, you must show that you made a good faith effort to include such participation; you will be required to submit DBE Compliance Form 2 and include additional information if needed. When so required, failure to address adequately the good faith effort factors on Form 2 will render your bid or proposal non-responsive. The "good faith effort" factors on Form 2 are not intended to be a mandatory, exhaustive, or exclusive.

You are encouraged to work with the City of Mobile Supplier Diversity Manager when preparing this form. Please consult with the City Supplier Diversity Manager for a list of eligible DBEs. The "good faith effort" factors on **Form 2** are not intended to be mandatory, exhaustive, or exclusive; they are a tool to help you, and the City of Mobile, determine whether you made efforts which, by their scope, intensity, and appropriateness to the objective, would reasonably be expected to fulfill the participation requirement.

About **"DBEs"**: Disadvantaged business enterprise or DBE means a for-profit small business concern (1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and (2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

About **"Good Faith" Effort**: Good faith efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. The City of Mobile expects contractors holding large contracts to recruit and engage DBEs to be a part of their team.

Failure to submit this form, when so required by the bid or proposal specification, will render your bid non-responsive.

Contact Office of Supplier Diversity for questions on completing this form.
Via emai:Archnique.kidd@cityofmobile.org
251.208.7967
205 Government Street, 5th Floor

FORM 1: Background and Plan

Section I. Information about your company

Company	
Address	
Telephone	
E-Mail	

RFP/RFQ Solicitation Number	
Project Description	
Is your company a DBE company?	Yes ☐ No ☐
Work force demographics	Male _____ Female _____ Minority _____ Non-minority _____ SDVO _____ Total #of Employees _____

Subcontractor/Major Supplier Plan submitted by:

Printed Name: _____

Signature: _____ Date: _____

Title: _____

The following employee will be designated as the **DBE Liaison** for all communication regarding DBE participation including documentation for DBE participation and maintenance of records of Good Faith Efforts for this contract award:

Name: _____ Title: _____

Email: _____ Phone: _____

Contact Office of Supplier Diversity for questions on completing this form.
Via emai:Archnique.kidd@cityofmobile.org
251.208.7967
205 Government Street, 5th Floor

FORM 1: Background and Plan (Cont'd

Section II. Subcontractors/Major Vendors Supplier Plan submitted by:

Please Print Company_____ Your Bid/Proposal Amount $_____ Date:

_____/ _____/_____ Description_____

Name of Bidder/Proposer: _____

I intend to use the following subcontractors: (Attach additional pages if necessary)

Subcontractor or Major Supplier	Phone	Scope of Work to be performed	$$ Value to be Performed	% Of Your Bid Amount	DBE?	Official Verification Only

Form 2: Good Faith Effort Documentation

Name of Bidder: _____

Contact Person: _____ Phone_____ Email_____

Please complete this form if you are unable to identify DBE subcontractors or suppliers to reach 15% of the value of your bid.

YES (□)	NO (□)	Did you do these suggested areas for DBE recruitment and engagement
		PRE-BID MEETING(S): The bidder attended all pre-bid meetings scheduled by the City to inform DBEs of contracting and subcontracting opportunities.
		CMDBE/ALDOT DBE LIST(S): The bidder utilized the Office of Supplier Diversity's list or lists of certified through the Alabama Department of Transportation UCP DBE Listing
		SMALL CONTRACT(S): The bidder selected specific portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation). Consider support services, including insurance, accounting, temporary labor, and transportation, landscaping, and janitorial as potential areas for DBE use.
		FOLLOW-UP: The bidder followed-up initial indications of interest by DBEs by contacting those DBEs to determine with certainty if they remained interested in bidding.
		GOOD FAITH NEGOTIATIONS: The bidder negotiated in good faith with interested DBEs and did not reject DBEs as unqualified without sound business reasons based on a thorough investigation of their capabilities. Bidders are not expected to engage unqualified subcontractors or subcontractors whose pricing, after negotiation, remains excessive or unreasonable. (Please document qualification deficiencies or unreasonable pricing if it prevented your engagement of specific DBE subcontractors.)
		ADVERTISEMENT: The bidder advertised in general circulation and/or trade association publications concerning subcontracting opportunities and allowed DBEs reasonable time to respond.
		INTERNET ADVERTISING: The bidder advertised DBE and/or subcontracting opportunities in the newspaper or other internet portals that are accessible to DBEs and/or potential subcontractors.

		INFORMATION: The bidder provided interested DBEs with adequate information about the plans, specifications and requirements of the subcontract.
		WRITTEN NOTICE(S): The bidder/proposer took the necessary steps to provide written notice in a manner reasonably calculated to inform DBEs of subcontracting opportunities and allowed sufficient time for them to participate effectively.
		COMMUNITY RESOURCES: The bidder/proposer used the services of available community organizations, small and/or disadvantaged business assistance offices and other organizations that provided assistance in the recruitment and placement of DBE firms.

CONTRACT RECORDS:

The bidder/proposer has maintained the following records for each DBE that has bid on the subcontracting opportunity:

1. Name, address, email address and telephone number
2. A description of information provided by the bidder/proposer or subcontractor; and
3. A statement of whether an agreement was reached, and if not, why not, including any reasons for concluding that the DBE was unqualified to perform the job.

Section 2(B)

_____ There are not ways to break out 15% of the value of this contract for subcontractors / suppliers. Provide further detail in Section2(c) if the inability to break-out 15% of the value of the contract was the reason, or a reason, you could not meet the participation requirements.

_____ Could not find sufficient DBEs to provide subcontracting or supplier services.

_____ DBEs were available but did not have sufficient qualifications or experience to meet the needs of this contract.

Please indicate additional efforts you have taken to recruit and engage DBEs. _____

_____

_____

SECTION 00500

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

PART 1 GENERAL

A. This section includes the STANDARD FORM OF AGREEMENT BETWEEN OWNER and CONTRACTOR, AIA Document A101, wherein the basis of payment is a Stipulated Sum; the document has been electronically modified to meet the Owner's requirements and shall be used for the Project.

DRAFT

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

«City of Mobile »« »
«P. O. Box 1827 »
«Mobile, Alabama 36633-1827 »
« »

and the Contractor:
(Name, legal status, address and other information)

« »
« »
« »
«City of Mobile Business License Number: »
«Secretary of State Registration Number: »

for the following Project:
(Name, location and detailed description)

«City of Mobile, Alabama»
«Cathodic Protection for Bulkheads»
«155 & 201 South Water Street»
«Mobile, Alabama 36602»

«CT-018b-21»
«For Cathodic Protection at Cruise Terminal and GulfQuest Maritime Museum »

The Architect:
(Name, legal status, address and other information)

«Barter & Associates, Inc»
«1614 Government Street»
«Mobile, Alabama 36604»

The Owner and Contractor agree as follows.

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

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

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others (See attachment Exhibit A).

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[«X »] A date set forth in a notice to proceed issued by the Owner.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[« X »] Not later than «Four Hundred Eighty Six» («486») calendar days from the date of the Notice to Proceed for commencement of the Work.

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be «???????? and 00/100 Dollars » ($ «????»), subject to additions and deductions as provided in the Contract Documents.

Base Bid:
Contingency Allowance: $100,000.00
Total Bid:

Total Contract Sum:

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Contingency Allowance	$100,000.00

Contingency Allowance: One Hundred Thousand and 00/100 Dollars ($100,000.00)

A. Contingency Allowance shall cover cost of material, labor, overhead, profit and other expenses for complete installation of items of additional work as required for a complete, functional project.
B. Contingency Allowance shall be used for unforeseen conditions not covered in the construction documents.
C. All extra work under this section must be authorized by the Owner, in writing, prior to materials or undertaking work.
D. Upon completion of the Work, the unused portion of the Allowance shall be credited back to the Owner in the form of a Change Order.
E. Allowances are subject to the same provision of AIA 201 Article 7.3.7.

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)
1. _____	EA	$??.00
2. _____		
3. _____		
4.		

§ 4.5 Liquidated damages:
(Insert terms and conditions for liquidated damages, if any.)

«A time charge equal to Two Hundred Fifty and 00/100 Dollars ($250.00) per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted or any required closeouts documents are not acceptably submitted for more than thirty (30) days after the date specified for the substantial Completion of the Work, the amount of which shall be deducted by the owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained. »

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the 25th of the month.

« »

§ 5.1.3 Provided that an Application for Payment in acceptable format is received by the Architect not later than the first «1st » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the tenth «10th » day of the «following » month. If an Application for Payment in acceptable format is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than «forty » («40 ») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This accepted schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201, General Conditions of the Contract for Construction (including Owner's then-current modifications), and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing and insured as specified;
- **.3** Completed work shall be determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- **.3** Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- **.4** For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- **.5** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.6.3 Any Progress Payment shall include partial release of liens for material and labor for previous application for payment amount approved and paid. The DBE Utilization Report shall be included with the pay application.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

«Five percent (5%) of the first fifty percent (50%) of the completed work and after fifty percent (50%) completion has been accomplished, no further retainage shall be held from the original Contract Sum. Increases in the contract sum by Change Order shall also be subject to retainage.»

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

«N/A »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

«The net amount of the Retainage shall be equal to two and one half percent (2.5%) of total Contract Sum, as increased or decreased by Change Order. »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final monthly progress payment, constituting the entire unpaid balance of the Contract Sum, less retainage, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201 (including Owner's then-current modifications which may be obtained from the Owner or, alternatively, a copy of which is incorporated in the Project Manual and incorporated by reference herein as a part thereof), and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a Certificate of Substantial Completion has been issued by the Architect/Owner and the project accepted.

§ 5.2.2 The Owner's final payment to the Contractor of retainage shall be made as follows:

« The final two and one half percent (2.5%) of the total Contract Sum retained will not be paid until proof of publication is submitted and all written claims paid in full. Contractor to submit the following:
•Contractor's Affidavit of Payment of Debts and Claims (AIA form G706, included in contract documents) with
a.) Contractor's Release or Waiver of Liens
b.) Releases or Waivers of Liens from Subcontractors and Material and Equipment Suppliers;
•Contractor's Affidavit of Release of Liens (AIA form G706A, included in contract documents);
•Consent of Surety, if any, to final payment (AIA form G707, included in contract documents);
•Any additional close out requirements per the contract documents; and
•Notarized Affidavit of Notice of Completion advertisement from publisher.

Contractor shall provide proof of publication of Notice of Completion in a local newspaper once per week for four (4) consecutive weeks, as required in the Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama quoted below. "The Contractor shall, immediately after the completion of the contract, give notice of Completion by an advertisement in a newspaper of general circulation published within the city or county in which the work has been done, for a period of four (4) consecutive weeks. A final settlement shall not be made upon the contract until the expiration of thirty (30) days after the completion of the notice. Proof of publication of the notice shall be made by

the contractor to the authority by whom the contract was made by affidavit of the publisher and a printed copy of the notice published. If no newspaper is published in the county in which the work is done, the notice may be given by the contract." (Acts 1927, No. 39, 9.37; Acts 1935, No. 39, 9. 70; Code 1940, T. 50, Section 16; Acts 1983, No. 83-737, 9.1203; Acts 1989, No. 89-650m 9. 1284, Section 1; Acts 1994, No. 94-207, p, 270, Section 1; Acts 1997, No. 97-225, p. 348, Section 1.)

The Notice of Completion shall read as follows:

STATE OF ALABAMA
COUNTY OF MOBILE
NOTICE OF COMPLETION
In accordance with Chapter I, Title 39, Code of Alabama, 1975, NOTICE IS HEREBY given that _____has completed the contract for City of Mobile, Alabama – Cathodic Protection for Bulkheads, Project Number CT-018b-21, 155 & 201 South Water Street, Mobile, Alabama 36602. All persons having any claims for labor, material or otherwise in connection with this project should immediately notify the Architectural Engineering Department, City of Mobile, P. O. Box 1827, Mobile, Alabama 36633-1827.

Publication of the Notice of Completion shall not begin until the Project has been accepted as Substantially Complete by the City of Mobile. »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

«N/A »

§ 6.2 Binding Dispute Resolution

For any Claim, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« X »] Litigation in a court of competent jurisdiction

§ 6.3 Governing Law and Venue

This Agreement shall be governed by the laws of the State of Alabama, and the appropriate venue of any actions arising out of this Agreement shall be a court of proper jurisdiction in Mobile, Alabama.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201, General Conditions of the Contract for Construction, including Owner's then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof..

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201, General Conditions of the Contract for Construction, including Owner's then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents. A copy of such amended, revised or supplemental provision is incorporated in the contract documents and hereby incorporated by reference herein as a part thereof.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

«Director, REAM»
«P. O. Box 1827 »
«Mobile, Alabama 36633-1827 »

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »

« »**§ 8.4** Neither the Owner's nor the Contractor's representative shall be changed without ten (10) days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth below:
The Contractor shall purchase and maintain from a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
.4 Claims for damages insured by usual personal injury liability coverage;
.5 Claims for damages, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
.7 Claims for bodily injury or property damage arising out of completed operations; and
.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18 of the General Conditions of the Contract for Construction.

The Contractor shall take out and maintain during the life of the Contract no less than the following amounts of insurance with the City of Mobile named as an additional insured. Contractor shall submit a Certificate of Insurance. Insurance companies listed as the "Companies Affording Coverage" shall be authorized by the Secretary of the State of Alabama. Insurance produced out of the State of Alabama must be signed or counter signed by a licensed Agent of Alabama, with the Agent's name, address and telephone number typed or printed on the face of the Certificate of Insurance.

.1 Workmen's Compensation Insurance: - Statutory-amount and coverage as required by all applicable laws, rules or regulations of the State of Alabama and the United States of America, Including the U. S. Longshore and Harbor Workers Act and the Jones Act.

.2 Employee's Liability Insurance shall be provided for limits of liability not less than:

A.	Bodily Injury by Accident	$1,000,000 each accident
B.	Bodily Injury by Disease	$1,000,000 each employee
C.	Bodily Injury by Disease	$1,000,000 each policy

.5 The Contractor shall provide Broad Form (commonly termed Comprehensive) General Liability Insurance (including premises-product-completed operations, independent contractors, and blanket contractual liability), specifically covering the obligations assumed by the Contractor for limits of liability not less than:

A.	Bodily Injury	$1,000,000 each person $1,000,000 each occurrence
B.	Property Damage	$1,000,000 each occurrence; or
C.	Bodily Injury and Property Damage	$1,000,000 combined single limit

.6 Such comprehensive policy shall include the following:

A. All liability of the Contractor, for the Contractor's Direct Operations.
B. Subcontractor's Operations.
C. Completed Operations Cover, thereby meaning any loss which shall occur after the contract has been completed, but which can be traced back to the Contract.
D. General Aggregate Limit of $5,000,000 shall apply on a "Per Project" Basis.
E. Contractual Liability, meaning thereby; any risk assumed by the Contractor under Hold Harmless Agreements or any other assumption of liability, but specifically items 11.1.1.8.3G herein below
F. Broad Form Property damage Coverage, including Completed Operations.
G. Personal Injury Liability, with employee's exclusions removed.
H. Explosion and Collapse Hazard:
Included or X Not Applicable.
I. Underground Hazard:
Included or X Not Applicable.

.7 The Contractor shall carry for himself and shall require that all Subcontractors and all Owners of Automobiles or trucks rented or hired on the contract carry, until the Contracts is completed, Comprehensive Automobile Liability Coverage for Bodily Injury and property. Damage for any auto in amounts not less than the minimum amounts as indicated. The Contractor and Subcontractor shall also carry for themselves insurance for all non-owned and hired automobile at the limits of liability as indicated below:

A.	Bodily Injury	$1,000,000 each person $1,000,000 each occurrence
B.	Property damage	$1,000,000 each occurrence; or,
C.	Bodily Injury and Property damage	$1,000,000 combined single limit

.8 Umbrella/Excess Liability: $9,000,000 combined single limit each occurrence for bodily injury and/or property damage

.9 Builder's Risk Coverage (Property Insurance): The Contractor shall carry for the Owner, himself, and all Subcontractors a Builder's Risk Policy to cover the full amount of the Contract during construction, fabrication or erection of any equipment.

A. The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the

property, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors, Sub-subcontractors, and the Design Professionals in the Project.

B. Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

C. If the property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles. Deductibles shall be limited to a maximum of $2,500.00 unless the loss is caused by windstorm; then deductible shall be a maximum of three percent (3%) of the insured value.

D. This property insurance shall cover the full value of equipment, material, and other portions of the Work stored off the site, and also portions of the Work in transit. There shall be no limits on the value of loss per occurrence.

E. A named storm endorsement is required. The deductible shall be a maximum of three percent (3%) of the insured value.

.10 A Surety authorized to do business in the State of Alabama shall furnish the required Insurance.

.11 The standard ACORD™ format shall be provided. The ACORD™ Certificate must be signed or countersigned by a Licensed Resident Agent of the State of Alabama and the agent's name, address and telephone number must appear on the face of the certificate.

.12 The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc. if the bid price exceeds $50,000.00.

.13 Pollution Legal Liability: Contractor agrees to maintain Pollution Legal Liability limits of not less than $1,000,000 Each Occurrence, $2,000,000 Annual Aggregate. Contractor agrees the policy shall include a minimum three-year Discovery (tail) reporting period, and a Retroactive Date that equals or precedes the effective date of the Contract, or the performance of Work hereunder. This coverage may be provided on a Per-Project Basis.

.14 If the contractor owns the boats that will be used, Protection & Indemnity coverage limits of not less than $1,000,000 extending to captain, crew, and passengers is required.

.15 Marine Employer's Liability coverage limits of not less than $1,000,000 is required.

The insurance shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

Certificates of insurance acceptable to the Owner shall be filed with the Owner within ten (10) calendar days from date of issuance of contract forms for execution. Contractor shall deliver to the City of Mobile, certificates of insurance certifying the existence and limits of the insurance coverages along with separate policy endorsements. Contractor shall also be responsible for delivering policy renewal certificates to the City of Mobile, and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies shall

contain a provision that coverages afforded under the policies will not be cancelled subject to non-renewal nor material change, or allowed to expire without at least thirty (30) days' (except ten (10) days from non-payment) prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the time. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

All policies of insurance, except worker's compensation, shall be endorsed to provide that all such insurances are primary and non-contributing with any other insurance maintained by the City of Mobile and endorsed to waive rights of subrogation in favor of the City of Mobile.

The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 8.5.2 The Contractor shall provide bonds as set forth below:
Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder.

Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

The Labor and Material Payment Bond and the Performance Bond shall each be for one hundred percent (100%) of the Contract Sum.

1. Bond shall be submitted with the executed agreement on provided form(s).

2. Power of Attorney is required for both bonds.

3. A Surety authorized to do business in the State of Alabama shall furnish both bonds.

4. A Surety licensed to do business in the State of Alabama must execute the bonds.

5. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds $50,000.00.

6. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment being made to the Contractor.

§ 8.6 Indemnification:
The Contractor shall indemnify, defend and hold harmless City and its officers, elected officials, agents, representatives, and employees in respect of any and all claims, injuries, losses, diminution in value, damages, liabilities, whether or not currently due, and related expenses (including without limitation, settlement costs and any legal or other expenses for investigating or defending any actions or threatened actions) arising from or in connection with the contractor's performance under this agreement, including but not limited to, environmental laws, regulations, orders and decrees of whatever character or nature and damage or injury to persons or property. Contractor hereby confirms and agrees that Contractor is not a 'design professional' as defined in Alabama Act 2021-318, and not required to carry professional liability insurance for the performance or obligations of this contract.

§ 8.7 Other Provisions:
«Contractor shall provide a minimum five (5) year warranty from the date of substantial completion of all Labor and Materials for the Work covered by this contract, unless otherwise specified. Labor and Material warranties required

by other sections of the construction document shall not conflict with this provision. The most stringent warranty provision shall apply.»

§ 8.8 Force Majeure:
In the event that either party hereto shall be delayed or hindered in or prevented from the performance of any act required hereunder by reason of strikes, lockouts, labor troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, riots, insurrection, war, Act of God, or other reason of a like nature not the fault of the party delayed in performing work or doing acts required under the terms of this Agreement, then performance of such act shall be excused for the period of the delay and the period for the performance of any such act shall be extended for a period equivalent to the period of such delay.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A201, General Conditions of the Contract for Construction, including Owner's then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.

.3 Drawings

Number	Title	Date
CP-1	C.P. Anode Arrangement Plan	02/27/23
CP-2	Typical Sections and Details	02/27/23
CP-3	Typical Sections and Details	02/27/23
E1.0	Electrical Legend and Specifications	09/30/23
E2.0	Overall Ground Level Electrical Plan	09/30/23
E3.0	Enlarged Ground Level Area of Work	09/30/23
S1.1	Rectifier Platform Framing Plan	09/30/23
S2.0	Typical Rectifier Platform Details	09/30/23

.4 Specifications

Section	Title	Date
DIVISION 1	GENERAL REQUIREMENTS	
01010	Summary of Work	02/27/23
01210	Allowances	02/27/23
01310	Project Management and Coordination	02/27/23
01320	Construction Progress Documentation	02/27/23
01330	Submittal Procedures	02/27/23
01635	Substitution Procedures	02/27/23
01700	Execution Requirements	02/27/23
01731	Cutting and Patching	02/27/23
01732	Selective Demolition	02/27/23
01770	Close-out Procedures	
017823	Operation and Maintenance Data	
017839	Project Record Documents	
DIVISON 2	SITE CONSTRUCTION Not Used	
DIVISION 3	CONCRETE Not Used	

DIVISION 4	MASONRY Not Used	
DIVISION 5 05120	METALS Structural Steel	02/27/23
DIVISION 6	WOOD AND PLASTIC Not Used	
DIVISION 7	THERMAL AND MOISTURE PROTECTION Not Used	
DIVISION 8	DOORS AND WINDOWS Not Used	
DIVISION 9	FINISHES Not Used	
DIVISION 10	SPECIALTIES Not Used	
DIVISION 11	EQUIPMENT Not Used	
DIVISION 12	FURNISHINGS Not Used	
DIVISION 13 13110	SPECIAL CONSTRUCTION Cathodic Protection Systems Phase 1: Cruise Terminal Landside Protection GulfQuest Maritime Museum Landside Protection Phase 2: Cruise Terminal Landside Protection GulfQuest Maritime Museum Landside Protection	
DIVISION 14	CONVEYING SYSTEMS Not Used	
DIVISION 15	MECHANICAL Not Used	
DIVISION 16	ELECTRICAL Not Used	

.5 Addenda, if any:

Number	Date
Addendum #1	
Addendum #2	
Addendum #3	
Addendum #4	
Addendum #5	

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

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

§ 9.2
Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
N/A			

§ 9.2.1 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

«BIDDING AND CONTRACT REQUIREMENTS

Section 00100	Invitation to Bid
Section 00200	Instructions to Bidders-AIA Document A701
Section 00300	Supplementary Instructions to Bidders
Section 00400	Bid Form
	Accounting of Sales Tax Form C-3A
	Supplier Diversity Subcontracting and Major Supplier Plan
Section 00500	Standard Form of Agreement Between Owner and Contractor AIA Document A101
Section 00600	Bonds, Certificates and Affidavits
	Performance Bond
	Labor and Material Payment Bond
	E-Verify Documentation (Sample)
	Application and Certificate for Payment-AIA Document G702and G703 with DBE Utilization Report
	Certificate of Substantial Completion-AIA Document G704
	Contractor's Affidavit of Payment of Debts and Claims-AIA Document G706
	Contractor's Affidavit of Release of Liens-AIA Document G706A
	Consent of Surety to Final Payment-AIA Document G707
	Request for Taxpayer Identification Number and Certification W9 Tax Form and City of Mobile Vendor Information Form
Section 00700	General Conditions of the Contract for Construction-AIA Document A201»

§ 9.2.2 Best Management Practices (BMPs):
The Contractor shall be responsible for providing, implementing and maintaining BMPs for sediment and erosion control in full compliance with all applicable Local, State and Federal Codes and Ordinances throughout the contract period. All Work shall be in accordance with the Clean Water Act; the Alabama Water Pollution Control Act; the current version of the Alabama Handbook for Erosion Control, Sediment Control Stormwater Management on Construction sites and Urban Areas; and the current version of the Mobile, Alabama City Code Chapter 17 Stormwater Management and Flood Control. All Waste water with oils, grease, paint, mortar, etc., shall be properly contained and disposed of.

§ 9.2.3 Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

§ 9.2.4 By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.

§ 9.2.5 Public Contracts with Entities Engaging in certain Boycott Activities:
By signing this contract, the Contractor further represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

§ 9.2.6 Severability Clause:
In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

§ 9.2.7 Non-Agency Clause:
Contractor, in the performance of its operations and obligations hereunder, shall not be deemed to be an agent of City but shall be deemed to be an independent Contractor in every respect and shall take all steps at its own expense, as City may from time to time request, to indicate that it is an independent Contractor. City does not and will not assume any responsibility for the means by which or the manner in which the services by Contractor provided for herein are performed, but on the contrary, Contractor shall be wholly responsible therefore.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

This Agreement entered into as of the day and year first written above.

City of Mobile

Legal Name of Party to Contract:
Contractor:

OWNER *(Signature)*

CONTRACTOR *(By Signature)*

William S. Stimpson, Mayor

(Printed name and title)

(Printed name and title)

ATTEST:

_____
City Clerk

STATE OF ALABAMA
COUNTY OF MOBILE
Before me, the undersigned a Notary Public in and for said County and State, personally appeared XXXXXX as XXXXXXXXXX. and after being
duly sworn, did depose and say that he, as such officer and with full authority, signed the above and foregoing voluntarily as the act of said corporation on the day the same bears date.
Sworn to and subscribed for me this _____ day of _____, 20_____.

_____
NOTARY PUBLIC
My Commission Expires: _____

Company ID Number:

Approved by:

Employer		
Name (Please Type or Print)		
Signature		Date
Department of Homeland Secu[illegible] Division		
Name (Please Type or P[illegible]		Title
Signature		Date

E-Verify

Company ID Number:

Information Required for the E-Verify Program **Information relating to your Company:**	
Company Name	
Company Facility Address	
Company Alternate Address	
County or Parish	
Employer Identification Num	
North American Industry Classification Systems Code	
Parent Company	
Number of Employees	
Number of Sites Verified for	

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702 PAGE ONE OF PAGES

TO OWNER City of Mobile
P. O. Box 1827
Mobile, Alabama 36633-1827

PROJECT:

APPLICATION NO:

Distribution to:
☐ OWNER
☐ ARCHITECT
☐ CONTRACTOR
☐
☐

PERIOD TO:

FROM CONTRACTOR:

VIA ARCHITECT:

PROJECT NO:

CONTRACT FOR:

CONTRACT DATE:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM		$
2. Net change by Change Orders		$
3. CONTRACT SUM TO DATE (Line 1 ± 2)		$
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)		$
5. RETAINAGE:		
a. _____ % of Completed Work (Column D + E on G703)	$	
b. _____ % of Stored Material (Column F on G703)	$	
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		$
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)		$
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)		$
8. CURRENT PAYMENT DUE		$
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)		$

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

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

CONTRACTOR:

By: _____ Date: _____

State of: County of:
Subscribed and sworn to before me this day of
Notary Public:
My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

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

AMOUNT CERTIFIED . . . . . $ _____

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

By: _____ Date: _____

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

OFFICE OF SUPPLIER DIVERSITY

CITY OF MOBILE

DBE Compliance

DBE UTILIZATION REPORT

Return to Office of Supplier Diversity
Via email: archnique.kidd@cityofmobile.org
or
P.O. Box 1948
Mobile, AL 36633

CONTRACTOR:	**Certified DBE:** YES NO	**Contract Start Date:**
DESCRIPTION:		**Estimated Completion Date:**

This report is for the month of: (CHECK ONE):

JAN	APR	JULY	OCT
FEB	MAY	AUG	NOV
MARCH	JUNE	SEPT	DEC

FINAL _____

Original Contract Amount	Total Amount of Contract Changes (change orders or amendments)	Final Contract Amount (include contract changes)	Payments to Date from City of Mobile	OFFICE USE ONLY (Verification)
$	$	$	$	

Instructions: List all DBEs utilized on the contract, whether or not the firms were originally listed for DBE goal credit. List actual amount paid to each DBE firm. If the established Percentage is not being met, please include a narrative description of the progress being made in DBE participation.

DBE SUBCONTRACTOR	DBE DESCRIPTION OF WORK	DBE SUBCONTRACT AMOUNT	DBE PAYMENTS THIS REPORT	PAYMENTS TO DATE	OFFICE USE ONLY (Verification)
		$	$	$	
		$	$	$	
		$	$	$	
		$	$	$	
TOTALS		$	$	$	

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT. SUPPORTING DOCUMENTATION IS ON FILE AND IS AVAILABLE FOR INSPECTION BY CITY OF MOBILE OFFICE OF SUPPLIER DIVERSITY PERSONNEL AT ANY TIME.

PRINT NAME: _____

SIGNATURE: _____, _____ ___/___/____
(Title) (Date)

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702 PAGE ONE OF PAGES

TO OWNER City of Mobile
P. O. Box 1827
Mobile, AL 36633-1827

PROJECT:

APPLICATION NO:

Distribution to:
☐ OWNER
☐ ARCHITECT
☐ CONTRACTOR
☐
☐

PERIOD TO:

FROM CONTRACTOR:

VIA ARCHITECT:

PROJECT NO:

CONTRACT FOR:

CONTRACT DATE:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM		$
2. Net change by Change Orders		$
3. CONTRACT SUM TO DATE (Line 1 ± 2)		$
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)		$
5. RETAINAGE:		
a. _____ % of Completed Work (Column D + E on G703)	$	
b. _____ % of Stored Material (Column F on G703)	$	
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		$
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)		$
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)		$
8. CURRENT PAYMENT DUE		$
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)		$

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

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

CONTRACTOR:

By: _____ Date: _____

State of: County of:
Subscribed and sworn to before me this day of
Notary Public:
My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

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

AMOUNT CERTIFIED . . . . . $ _____

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

By: _____ Date: _____

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

CONTINUATION SHEET

AIA DOCUMENT G703

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

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

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

APPLICATION NO:

APPLICATION DATE:

PERIOD TO:

ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
	GRAND TOTALS								

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

CONTINUATION SHEET

AIA DOCUMENT G703

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

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

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

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
	GRAND TOTALS								

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

AIA® Document G706™ – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)*	**ARCHITECT'S PROJECT NUMBER:**	OWNER: ☐ ARCHITECT: ☐
	CONTRACT FOR: General Construction	CONTRACTOR: ☐
TO OWNER: *(Name and address)*	**CONTRACT DATED:**	SURETY: ☐ OTHER: ☐

STATE OF:
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment ☐ Yes ☒ No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR: *(Name and address)*

BY: _____
(Signature of authorized representative)

_____
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

AIA® Document G706A™ – 1994

Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)*	**ARCHITECT'S PROJECT NUMBER:**	OWNER: ☐
	CONTRACT FOR: General Construction	ARCHITECT: ☐
TO OWNER: *(Name and address)*	**CONTRACT DATED:**	CONTRACTOR: ☐
		SURETY: ☐
		OTHER: ☐

STATE OF:
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.

2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY:

_____
(Signature of authorized representative)

_____
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

AIA® Document G707™ – 1994

Consent Of Surety to Final Payment

PROJECT: *(Name and address)*	**ARCHITECT'S PROJECT NUMBER:**	OWNER: ☐
	CONTRACT FOR: General Construction	ARCHITECT: ☐
TO OWNER: *(Name and address)*	**CONTRACT DATED:**	CONTRACTOR: ☐
		SURETY: ☐
		OTHER: ☐

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

_____
(Surety)

_____
(Signature of authorized representative)

Attest:
(Seal):

_____
(Printed name and title)

CITY OF MOBILE, AL
VENDOR INFORMATION FORM

Company Information:

1. City Vendor Number:

2. Name of Company:

3. Company D.B.A. Name, if any:

4. Mailing Address:

5. Remittance Address:

6. Telephone:

7. Fax

8. Main Email:

Primary Contact:

9. Contact Name and Title:

10. Contact Phone:

11. Contact Fax:

12. Contact Email:

Alternate Contact (if applicable):

13. Alt. Contact Name and Title:

14. Alt. Contact Phone:

15. Alt. Contact Fax:

16. Alt. Contact Email:

City of Mobile Business License Information:

17. City of Mobile Business License No. (if required):

Please attach additional sheets if necessary.

Form **W-9**
(Rev. December 2011)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

Name (as shown on your income tax return)

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ►

☐ Other (see instructions) ►

☐ Exempt payee

Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

City, state, and ZIP code

List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

			–			–				

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here Signature of U.S. person ► Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

Exhibit 5

CITY OF MOBILE, AL
VENDOR INFORMATION FORM

Company Information:

1. City Vendor Number:

2. Name of Company:

3. Company D.B.A. Name, if any:

4. Mailing Address:

5. Remittance Address:

6. Telephone:

7. Fax

8. Main Email:

Primary Contact:

9. Contact Name and Title:

10. Contact Phone:

11. Contact Fax:

12. Contact Email:

Alternate Contact (if applicable):

13. Alt. Contact Name and Title:

14. Alt. Contact Phone:

15. Alt. Contact Fax:

16. Alt. Contact Email:

City of Mobile Business License Information:

17. City of Mobile Business License No. (if required):

Please attach additional sheets if necessary.

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List account number(s) here (optional)

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AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)
City of Mobile
Architectural Engineering Department
P. O. Box 1827
Mobile, Alabama 36633-1827

THE ARCHITECT:
(Name, legal status and address)

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

TABLE OF ARTICLES

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INDEX

~~(Topics and numbers in bold are section headings.)~~
(Numbers and Topics in Bold are Section Headings)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, Project Manual, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 ~~The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.~~

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or

the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the ~~site.~~ site, as may be required. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 ~~Unless otherwise provided in the Contract Documents, the~~ The Owner shall furnish to the Contractor ~~one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.~~up to ten copies of the drawings and specifications as required for Contractor's execution of the Work. Any additional sets of documents that the contractor desires for construction of the Project will be issued to contractor at actual printing and handling costs.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

3.3.4 Three (3) days after the opening of the Bids, the Contractor shall furnish for written approval, an outline of the education, experience and character of the Contractor's project manager, superintendent and engineer. Any future substitution must have prior written approval of the Architect.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to ~~them.~~them.

3.4.4 The Contractor's or his Subcontractor's supervisors and workmen engaged on special work or skilled Work in any supervisory position or trade shall be qualified and have had sufficient education, training and experience as a recognized professional or master mechanic in such Work to perform it properly and satisfactorily as prescribed in the Contract Documents.

3.4.5 Any project manager, superintendent, engineer, foreman or workman employed by the Contractor or by a subcontractor who, in the sole opinion of the Architect, does not perform his Work in a proper and skillful manner or becomes party to disrespectful, intemperate, disorderly, intoxicated, or dishonest behavior, or uses foul language, fights, commits criminal act(s) falsifies records and construction, covers-up faulty Work or materials, does not comprehend or follow instructions, does not get along with the Architect or Owner's representative, or is otherwise objectionable, shall, at the written request by the Architect, be discharged 24 hours by the Contractor or Subcontractor employing such project manager, superintendent, engineer, foreman or workman, and shall not be employed again or any portion of the Work without the written consent of the Architect.

3.4.6 Should the Contractor fail to remove such person or persons specified in Article 3.4.5 hereinabove or fail to furnish suitable and sufficient machinery, equipment, materials or qualified labor force for the proper execution of the Work, the Architect may withhold all payments which are or may become due the Contractor or may suspend the Work until such orders are complied with.

3.4.7 Contractor shall abide by provisions of Section 14-1 and Section 14.2, Code of the City of Mobile, originally adopted December 10, 1991. Prohibiting Discrimination in Employment by Contractors, Subcontractors and Vendors performing Work and providing materials and supplies for the City of Mobile. A copy of said Code is located in the City's Projects Architectural Engineering Department. Certification of compliance with this requirement shall be made for all persons involved in the Work by the signature of the General Contractor on the Bid Form (Section 00410).

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 ~~PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS~~
PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure ~~and pay for the building permit as well as for~~ City of Mobile building permit without cost, and shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

3.7.1.1 The Contractor shall secure building and other permits customarily obtained from the City of Mobile at no cost.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 ~~Allowances~~ allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 ~~Whenever~~ whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, ~~promptly~~ within ten (10) business days after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals

upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents ~~in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule,~~ with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action. Wherever Shop Drawings are required in these Specifications, Shop Drawings shall be submitted for approval before materials are fabricated. Drawings shall show complete details. The General Contractor shall check and approve them either in writing or by stamp before forwarding to the Architect. The Architect will mark copies "Approved" if correct; or, "Approved As Noted" if only minor corrections are necessary. If major corrections are necessary they will be noted on the Shop Drawings and they will be returned to the Contractor for correction and resubmission. Submit four (4) copies for Architect's and Owner's use plus the number of copies the contractor requires for his own use.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings 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 the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor

shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

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

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity ~~that~~ which would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be

liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

3.19 As applicable, the Contractor shall be responsible at the appropriate time during construction of the Project to have all permanent meters installed (electrical, water, gas, etc.) and all utilities connected prior to the time of Final Inspection. The Contractor shall pay all utilities costs until the Project is accepted by the City of Mobile.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. "Architect" may also designate the Licensed Designer of the Project and may be an Engineer or Landscape Architect.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative ~~during construction until the date the Architect issues the final Certificate for Payment.~~ (1) during construction (2) until all conditions necessary for the final completion and payment have been fulfilled and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract ~~Documents.~~Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 ~~Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract,~~ The apparent low bidder, within (3) days after bids are opened shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the ~~14 day~~ 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. ~~If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.~~

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation ~~shall~~ may be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. ~~If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. The total of all Change Orders on each contract shall not exceed ten percent (10%) of the contract price for each project and shall be subject to at least one of the following criteria:

.1 Minor changes for a total monetary value less than required for competitive bidding under the State Competitive Bid Laws.

.2 Changes for matters relatively minor and incidental to the original contract necessitated by unforeseen circumstances arising during the course of the Work.

.3 Emergencies arising during the course of the Work on the Contract.

.4 Changes or Alternates provided for in the original bidding where there is no difference in price on the Change Order from the original best bid on the Alternate.

.5 Changes of relatively minor items not contemplated when the plans and specifications were prepared and the project was bid which are in the public interest.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

.1 The change in the Work;

.2 The amount of the adjustment, if any, in the Contract Sum; and

.3 The extent of the adjustment, if any, in the Contract Time.

.4 There shall be attached to each Change Order a signed statement from the Architect containing the following:

A. A statement of what the Change Order covers and who instituted the Change Order and why it is necessary or desired.

B. A statement setting forth the reasons for using the Change Order method rather than taking new competitive bids.

C. A statement that all prices have been reviewed and found reasonable, fair and equitable and recommending approval of the same.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes

in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

.2 Unit prices stated in the Contract Documents or subsequently agreed upon;

.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

.4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices ~~shall~~ may be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an ~~amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount.~~ allowance of 10% mark-up on Subcontractor's direct cost (actual cost of Labor & Materials) and 15% mark-up on a Contractor's direct (actual cost of Labor & Materials). In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

.2 Costs of materials, supplies and equipment, including cost of transportation, ~~whether incorporated or consumed;~~ actually incorporated or consumed in the work;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented ~~from~~ by the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and

.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be

reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

.1 No Work shall commence and no materials ordered until the Owner issues the written Notice to Proceed.

.2 The Work shall be commenced within ten (10) days of the date of a written Notice to Proceed.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the ~~Owner pending mediation and arbitration;~~ Owner; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

8.4 LIQUIDATED DAMAGES

8.4.1 Time is the essence of the Contract. Any delay in the completion of the Work as provided for in the Contract Documents will cause inconvenience to the public and loss and damage to the Owner in interest, and in additional administrative, architectural, inspection, and supervision charges.

Therefore, a time charge equal to $250.00 per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted or any required closeouts documents are not acceptably submitted for more than 30 days after the time specified for the Substantial Completion of the Work, the amount of which shall be deducted by the Owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not s a penalty, but as liquidated damages sustained.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

.1 Unit Prices and Allowances, if stated in the Contract Documents, shall be identified within the Schedule of Values.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 ~~At least ten days before the date established for each progress payment, the~~ The Contractor shall submit to the Architect ~~an itemized Application for Payment prepared in accordance with the~~ on the first of each month; for Work done through the 25th of the preceding month, four (4) original, itemized Applications for Payment for Work completed in accordance with the accepted schedule of values, if required under Section ~~9.2,~~ 9.2., for completed portions of the Work. Such application shall be ~~notarized, if required,~~ notarized and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such ~~as~~ copies of requisitions from ~~Subcontractors~~ subcontractors and material suppliers, and shall reflect retainage ~~if provided for in the Contract Documents~~ and documents as follows:

.1 Until the final payment is made, the Owner shall pay ninety-seven and one half percent (97.5%) of the amount due the Contractor on account of progress payments (note: the 2-1/2% retainage is calculated by withholding the first 5% of the first 50% of the work completed); and

.2 The Contractor shall provide documentation substantiating that test, inspections and approvals for portions of Work included in an Application for Payment and required by the Contract Documents, or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction were made at the appropriate time.

§ 9.3.1.1 ~~As provided in Section 7.3.9, such~~ Such applications may include requests for payment on account of changes in the ~~Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.~~ Work, which have been authorized and approved by properly executed Change Order(s).

§ 9.3.1.2 ~~Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.~~ Such applications may Include requests for payment on account of changes in the Work, which have been authorized and approve by properly executed Change Order(s).

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
.3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a separate contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the

Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the ~~Architect or awarded by binding dispute resolution,~~ Architect, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time ~~shall~~ may be extended appropriately and the Contract Sum ~~shall~~ may be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such ~~Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.~~ Work.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed

to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final ~~payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.~~payment, (5), contractors Affidavit of Release of Liens, (6) separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers (7) written warranty on Contractor's letterhead covering materials and labor for one year, and (8) the advertisement of completion. The Contractor shall provide proof of publication of Advertisement of completion in a local newspaper for four (4) consecutive weeks, as required in Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama. The final 2.5% retained will not be paid until proof of publication is submitted and all written claims paid in full. This advertisement shall not begin until the City of Mobile has accepted the Project.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the ~~Contractor or by issuance of Change Orders affecting final completion,~~ Contractor, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 ~~liens,~~ Claims, security interests or encumbrances arising out of the Contract and unsettled;

.2 failure of the Work to comply with the requirements of the Contract Documents; or

.3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall comply with all Federal, State and Local law regarding safety including the requirements of the Occupational Safety and Health Act of 1970, Public Law #91-596, latest revision. Contractor shall take all other reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

.1 employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

.4 The Contractor shall be responsible for damage done to buried cables and other utilities by its equipment and shall contact the appropriate offices prior to construction for information depth, etc., of utilities in the area.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and ~~loss (other than damage or loss insured under property insurance required by the Contract Documents)~~ loss) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and ~~start-up.~~start-up, except to the extent that any such delay is attributable to the Contractor's objection to the persons or entities whom Owner shall have furnished to perform the task of removal of safe containment of such material or substance.

§ 10.3.3 ~~To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.~~

§ 10.3.4 The Owner shall not be responsible ~~under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.~~for materials or substances brought to the site by the Contractor regardless of whether such materials or substances were required by the Contract Documents.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence or wantonness on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner ~~shall indemnify~~ may reimburse the Contractor for all reasonable cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency ~~shall~~ may be determined only as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

.4 Claims for damages insured by usual personal injury liability coverage;

.5 Claims for damages, ~~other than to the Work itself,~~ because of injury to or destruction of tangible property, including loss of use resulting therefrom;

.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

.7 Claims for bodily injury or property damage arising out of completed operations; and

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

The Contractor shall take out and maintain during the life of the Contract no less than the following amounts of insurance with the Owner named as an additional insured. Contractor shall submit a Certificate of Insurance and a supplemental Attachment for Certificate of Insurance 25-2 (7/90), AIA Document G715, Insurance companies listed as the "Companies Affording Coverage"

shall be authorized by the Secretary of the State of Alabama. Insurance produced out of the State of Alabama must be signed or counter signed by a Resident Agent of Alabama, with the Resident Agent's name, address and telephone number typed or printed on the face of the Certificate of Insurance.

.1 Workmen's Compensation and Employer's Liability Insurance: - Statutory-amount and coverage as required by law of place in which the Work is performed.

.2 Employee's Liability Insurance shall be provided for limits of liability not less than:

A.	Bodily Injury by Accident	$1,000,000 each accident
B.	Bodily Injury by Disease	$1,000,000 each employee

.3 The Contractor shall provide Broad Form (commonly termed Comprehensive) General Liability Insurance (including premises-product-completed operations) for limits of liability not less than:

A.	Bodily Injury	$1,000,000 each person $1,000,000 each occurrence
B.	Property Damage	$1,000,000 each occurrence; or
C.	Bodily Injury & Property Damage	$1,000,000 combined single limit

4. Such comprehensive policy shall include the following:

A. All liability of the Contractor, for the Contractor's Direct Operations.
B. Subcontractor's Operations.
C. Completed Operations Cover, thereby meaning any loss which shall occur after the contract has been completed, but which can be traced back to the Contract.
D. Contractual Liability, meaning thereby; any risk assumed by the Contractor under Hold Harmless Agreements or any other assumption of liability, but specifically Items 11.1.1.8.3G herein below
E. Broad Form Property damage Coverage, including Completed Operations.
F. Personal Injury Liability, with employee's exclusions removed.
G. The Contractor shall indemnify and save harmless the Owner against all loss, cost, or damaged on account of injuries to persons or property occurring in the performance of the Contract, including all reasonable attorney's fees incurred by the Owner, on account thereof.
H. Explosion and Collapse Hazard:
Included or ☒ Not Applicable.
I. Underground Hazard:
Included or ☒ Not Applicable.

5. The Contractor shall carry for himself and shall require that all Subcontractors and all Owners of Automobiles or trucks rented or hired on the contract carry until the Contract is completed. Comprehensive Automobile Liability Coverage for Bodily Injury and property Damage in amounts not less than the minimum amounts as indicated. The Contractor and Subcontractor shall also carry for themselves insurance for all non-owned and hired automobile at the limits of liability as indicated below:

A.	Bodily Injury	$1,000,000 each person $1,000,000 each occurrence
B.	Property damage	$1,000,000 each occurrence; or,
C.	Bodily Injury & Property damage	$1,000,000 combined single limit

6. Excess Liability: $2,000,000 limit

7. Builder's Risk Coverage. The Contractor shall carry for the Owner, himself, and all Subcontractor's a Builder's Risk Policy to cover the full amount of the Contract during construction, fabrications or erection of any equipment.

8. A Surety authorized to do business in the State of Alabama shall furnish the required insurance.

9. The ACCORD™ Certificate must be signed or countersigned by a Licensed Resident Agent of the State of Alabama and the agent's name, address and telephone number must appear on the face of the certificate.

10. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. best Company, Inc., if the bid price exceeds $50,000.00

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's ~~consultants~~ Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 ~~Unless otherwise provided, the Owner~~ The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional ~~deductibles.~~ deductibles (See 11.1.1 Supplement Builder's Risk Coverage). Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the ~~Owner~~ Contractor shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

~~**§ 11.3.1.5** Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.~~

~~**§ 11.3.2 BOILER AND MACHINERY INSURANCE**~~

~~The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.~~

~~**§ 11.3.3 LOSS OF USE INSURANCE**~~

~~The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.~~

~~**§ 11.3.4** If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.~~

~~**§ 11.3.5** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.~~

~~**§ 11.3.6** Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable~~

~~conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.~~

~~§ 11.3.7 WAIVERS OF SUBROGATION~~

~~The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.~~

~~§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.~~

~~§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.~~

~~§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.~~

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The ~~Owner shall have the right to require the Contractor to~~ Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising ~~thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.~~thereunder.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

11.4.3. The Labor and Material Payment Bond and Performance Bond shall each be for one hundred percent (100%) of the Contract price if the Contract Price is greater than $10,000.00

1. Cost of the bonds shall be included in the bid.

2. Bonds shall be submitted with the executed agreement on provided form(s).

3. Power of Attorney is required for both bonds.

4. A Surety authorized to do business in the State of Alabama shall furnish both bonds.

5. A Surety licensed to do business in the State of Alabama must execute the bonds.

6. Each bond must be signed or countersigned by a Resident Agent of the State of Alabama.

7. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds $50,000.00.

8. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment being made to the Contractor.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the ~~place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.~~

State of Alabama.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

13.2.3 No assignment of the Contract shall be made without the written permission of Surety providing bonding and the City of Mobile.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public

authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.5.7 Test, inspections or approvals made in addition to the Architects normal design and contract administration services caused by the Contractor shall be paid for by the Contractor. The normal service schedule is contained in Article 2.8.1 of AIA B102-2007 as amended by the Owner and is available to Contractor on request.

13.5.8 The Contractor must call the Urban Development Department of the City of Mobile for their inspections and approval at the times required by the Urban Development Department, as well as notify the Architect, Consulting Engineer, and/or Test Laboratory, for inspection and approval of sub-grade conditions, under slab and footing Conditions, vapor barrier placement, reinforcing steel placement, all structural connections, electrical, mechanical, etc. None of the above will be accepted that have been covered up before receiving approval of the Architect or his Consultant.

§ 13.6 INTEREST

~~Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

13.8 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.8.1 As between the Owner and Contractor:

1. Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;

2. Between Substantial Completion and Final Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to the final payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all event snot later than the date of issuance of the final Certificate for Payment; and

3. After Final Payment. As to acts or failures to act occurring after the relevant date of the final Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Section 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

13.9 SUBSTITUTION OF MATERIALS AND EQUIPMENT

13.9.1 Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturer's or vendor's names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work ~~executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.~~ executed.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time ~~shall~~ may be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of ~~such termination, along with reasonable overhead and profit on the Work not executed.~~termination.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated ~~by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated~~ within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant ~~first recognizes~~ acting with due diligence, reasonable should have first recognized the condition giving rise to the Claim, whichever is later. Claims must be initiated by written notice to the Architect and the other party.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the ~~Work.~~ Work giving rise to such claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been

rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The ~~Initial Decision Maker~~ Architect will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the ~~Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion,~~ Architect reasonably concludes that, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons ~~therefor;~~ therefore; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties ~~but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.~~

~~**§ 15.2.6** Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.~~

~~**§ 15.2.6.1** Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.~~

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall not be subject to mediation as a condition precedent to binding dispute resolution.

~~**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in~~

writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

SECTION 00700

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION,
AIA DOCUMENT A201

PART 1 GENERAL

This section includes the GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AIA Document A-201, that is to be used for this Project. The document has been electronically modified to meet the City of Mobile's requirements and shall be used for the project.

SECTION 01010
SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Summary of Work: Contract, contractor use of premises.

B. Contract Considerations: Contingency allowance, schedule of values, applications for payment, change procedures, alternates.

C. Coordination and Meetings: Coordination, field engineering, cutting and patching, meetings, progress meetings, examination, preparation, cutting and patching.

D. Submittals: Submittal procedures, construction progress schedules, proposed products list, shop drawings, product data, samples, manufacturers' installation instructions, manufacturers' certificates.

E. Quality Control: Quality assurance - control of installation, Tolerances, References, Mock-ups, Manufacturers' field services and reports, Construction Quality Testing.

F. Construction Facilities and Temporary Controls: Electricity, temporary lighting for construction purposes, heat, temporary ventilation, telephone service, water service, temporary sanitary facilities, barriers and fencing, exterior enclosures, protection of installed work, security, access roads, parking, progress cleaning and waste removal, project identification, field offices and sheds, removal of utilities, facilities, and controls.

G. Material and Equipment: Products, transportation, handling, storage, and protection, products options, substitutions.

H. Contract Closeout: Contract closeout procedures, final cleaning, adjusting, project record documents, operation and maintenance data, spare parts and maintenance materials, warranties.

1.2 RELATED SECTIONS

A. Section 01210 Allowances
B. Section 01310 Project Management and Coordination
C. Other Division 1 Sections

1.3 CONTRACT AND SUMMARY OF WORK

A. Summary of Work: The project shall consist of cathodic protection (landside and waterside) to existing, occupied facilities as outlined in the Project Documents.

B. Contract Description: Stipulated sum.

C. Phased Work:
- Phase 1 Work is landside cathodic protection at the Cruise Terminal and GulfQuest Maritime Museum. Provide all infrastructure for landside and waterside work during this phase.
- Phase 2 Work is waterside work. It shall consist of Work and equipment that is performed by divers. It shall also include the installation of the specified rectifiers on the equipment platform.

Phase 2 shall be “plug and play” into the Phase 1 Work.

1.4 CONTRACTOR USE OF PREMISES

A. Limit use of premises to allow continued Owner occupancy. All facilities shall remain in use. Obey all Facility Regulations and coordinate access and schedule of work with Facility Director and Project Manager. See Section 01310 – Project Management and Coordination for Schedule of ongoing events.

1.5 CONTINGENCY ALLOWANCE

A. Include in the Contract the stipulated amount for use upon Owner's instruction.

B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit are included in Change or Field Orders authorizing expenditure of funds from this Contingency Allowance.

1.6 SCHEDULE OF VALUES

A. Submit Schedule of Values on AIA Form G703 with G702 Application and Certification for Payment.
B. Submit Schedule of Values within 5 calendar days after NTP.

1.7 APPLICATIONS FOR PAYMENT

A. Submit four signed and notarized originals of each application on AIA Form G702 with AIA Form G703.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment. Include Change Orders on payment forms.

C. Payment Period: Monthly, except for final payment of retainage after all Close Out documents are submitted and approved.

1.8 CHANGE ORDER PROCEDURES

A. All contract changes involving a change in scope, payment and/or time shall be made by change order.

B. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Owner.

1.9 ALTERNATE BID ITEMS

A. Alternates quoted on Bid Forms, if any, will be reviewed and accepted in the order listed.

B. Coordinate related Work and modify surrounding Work as required.

C. Schedule of Alternates: Listed on bid form, as applicable.

1.10 COORDINATION

A. Coordinate scheduling, submittals, and Work at the facility to ensure an efficient and orderly sequence and to facilitate the continued uninterrupted use of the Facility.

1.11 FIELD ENGINEERING

A. Establish elevations, lines, and levels and certify that elevations and locations of the Work conform to the Contract Documents. Verify existing conditions.

B. Contractor shall field verify all measurements and quantities required for a complete installation.

1.12 PRECONSTRUCTION MEETINGS

A. Owner will schedule a pre-construction meeting after contract award for all affected parties.

1.13 PROGRESS MEETINGS

A. Contractor is required to attend weekly meetings per Section 01310 Project Management and Coordination.

B. Preside at meetings, record minutes, and distribute copies within two days to those affected by decisions made.

1.14 CONSTRUCTION PROGRESS SCHEDULES AND DOCUMENTATION

A. Submit initial progress schedule in electronic (pdf) format within 5 days after NTP for Project Manager’s review and approval.

B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.

C. See Sections 01310 Project Management and Coordination and Section 01320 Construction Progress Documentation for additional requirements.

1.15 SHOP DRAWINGS

A. Shop Drawings for Review: Submit to Project Manager/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

B. Submit four copies for use by the owner plus the number of copies that Contractor requires. Submit electronic (pdf) submittals concurrently. Include in record documents as outlined in Article 1.73 Project Record Documents.

C. See Section 01330 Submittal Procedures for additional requirements.

1.16 QUALITY ASSURANCE - CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' written instructions.

C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

D. Supply certification from manufacturer that the installed Work meets or exceeds all manufacturers' requirements.

E. Delegated Design, when required by Specifications, shall include comprehensive engineering analysis by a qualified engineer licensed in the State of Alabama and engineer shall use performance requirements and design criteria indicated.

1.17 EXAMINATION

A. Verify that existing site conditions and surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify that utility services are available, of the correct characteristics, and are located in the correct location.

1.18 PREPARATION

A. Prepare surfaces prior to applying next material installation.

1.19 TOLERANCES

A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate. Comply fully with manufacturers' tolerances.

1.20 REFERENCES

A. Conform to reference standards by date of issue current as of date of Contract Documents.

B. Should specified reference standard conflict with Contract Documents, request clarification from Project Manager before proceeding.

1.21 ELECTRICITY

A. Unless otherwise provided for, Contractor shall be allowed to utilize power from the facility in moderate amounts.

B. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

1.22 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain temporary lighting for construction operations as may be required.

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

1.23 WATER SERVICE

A. Owner shall provide suitable potable water in moderate quantities without cost to the Contractor.

1.24 TEMPORARY SANITARY FACILITIES

A. Contractor may use existing restroom facilities. Maintain in clean and sanitary condition.

1.25 BARRIERS AND FENCING AND SIGNS

A. Provide barriers and fencing as needed to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from dust, debris and damage.

B. Provide “Men at Work” and other signage as required to warn occupants of construction activities in the area.

1.26 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification sections. Prohibit traffic or storage upon grass or paving surfaces.

1.27 SECURITY

A. Provide security and facilities to protect Work and existing facilities unauthorized entry, vandalism, or theft.

B. This is a secure Department of Homeland Security facility, and TWIC (Transportation Worker Identification Credential) cards will be required for workers on the property. Rules allow on TWIC card holder to supervise a maximum of 5 workers. These 5 workers must stay in line of sight of the holder at all times when on the property. (This means the TWIC card holder can’t stay on the dock while one of their people goes to the rest room, for example.) TWIC cards are easy to get, and cost around $140.00/ea but applications must be made in a timely fashion. Include the cost of TWIC cards for personnel in your bid. https://www.tsa.gov/for-industry/twic

1.28 ACCESS ROADS & HAULING

A. Maintain access routes through the public thoroughfare and parking areas to serve the construction area as required without obstructing traffic or blocking access for facility staff or participants.

1.29 PARKING

A. Contractors, with the exception of superintendant vehicle and delivery vehicles, shall park across South Water Street. Parking at parking deck is not allowed.

1.30 PROGRESS CLEANING AND WASTE REMOVAL

A. Collect and maintain work areas free of waste materials, debris, and rubbish on a daily basis. Maintain site in a clean and orderly condition. Provide refuse containers and dispose of construction debris legally off site. The Owner may request load tickets from landfills permitted to accept construction debris.

1.31 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities and materials, prior to Substantial Completion review.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.32 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.

1.33 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

A. Transport, handle, store, and protect Products in accordance with manufacturer's instructions.

1.34 PRODUCT OPTIONS

A. Products Specified by Naming One Manufacturer or equal: Products of manufacturer named approved as “Basis of Design”. Equal alternate products to be approved by Owner as Substitutions. Submit product data as required in SUBSTITUTIONS Article 1.34 below.

1.35 SUBSTITUTIONS

A. Unless substitutions for cause are requested, Architect/Engineer will consider requests

for Substitutions only if submitted Seven (7) calendar days or more before bid date with all back up data to show that all characteristics of the Basis of Design product are met with the substituted product or material.

B. Document each request with complete backup data substantiating compliance of proposed Substitution with all characteristics of the materials specified in the Contract Documents.

C. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.

D. Substitution shall indicate all product properties and show that they are equal to that Specified.

E. See Section 01635 Substitution Procedures for additional requirements.

1.36 CONTRACT CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Project Manager's inspection.

B. Submit final Application for Payment identifying total adjusted Contract Sum/Price, previous payments, and amount remaining due. For final payment of retainage, submit invoice, consent of surety (as applicable), certificates of no liens, original notarized proof of advertisement and other documents required by the Owner and State law.

C. See Section 01770 Closeout Procedures for additional requirements.

1.37 FINAL CLEANING

A. Execute final cleaning prior to final inspection of work area. User may occupy portions of the work incrementally as the work is completed and accepted. Entire project to be ready for use by User once all areas of work are completed.

B. Clean debris from site and drainage systems.

C. Remove waste and surplus materials, rubbish, and construction facilities from the facility and the site. Leave site in vacuumed and dust free condition.

1.38 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of Contract Documents to be utilized only for record documents.

B. Record actual revisions to the Work. Record information concurrently with construction progress.

C. Specifications: Legibly mark and record at each Product section a description of actual Products installed.

D. Record Product Data and Shop Drawings: Legibly mark each item to record actual

construction and items furnished.

E. Operations and Maintenance Data: submit operations manuals for systems, subsystems and equipment; maintenance manuals for the care and maintenance of products, materials, finishes, systems, and equipment; emergency manuals.

F. Submit project record documents to Project Manager with claim for final Application for Payment. Submittal shall include one paper copy and one PDF copy of each project record document type listed.

G. See additional requirements for Closeout Documents in Division 2-16 Sections.

1.39 WARRANTIES

A. Product, Manufacturer's Warranties, and Special Warrantees shall be provided per specifications.

B. In addition, all materials and labor shall be warranted for a minimum of one year after Substantial Completion of the entire project. Contractor to promptly repair all deficiencies within that time. A warranty inspection shall be scheduled by the owner, with the Contractor and Owner's representative, before the end of the warranty period, in order to review the work and note deficiencies for the Contractor to correct. Said meeting may be waived if no deficiencies are noted.

C. Provide PDF copy of each warrantee in the Project Record Documents.

1.40 ENVIRONMENTAL CONCERNS

A. Site is located on the Mobile River. See Section 01700 Execution Requirements for requirements.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

END OF SUMMARY OF WORK

City of Mobile, Alabama
Cruise Terminal & Gulf Quest Maritime Museum
Cathodic Protection for Bulkheads
CT-018b-21

SECTION 01210

ALLOWANCES

PART 1GENERAL

1.1 RELATED DOCUMENTS
Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Allowances will be utilized to:

1. Defer selection of certain items until more information is available.

2. Provide for discretionary installation of materials where exact and specific conditions cannot be determined in advance.

3. Provide for the discretionary use of labor where tasks and time frames cannot be determined in advance.

B. Include in Total Bid a stipulated lump sum allowance amount as specified in this Section.

1.3 ALLOWANCE

A. Include in Total Bid a stipulated lump sum as indicated for use upon Owner's instruction.

B. Contractor’s costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Allowance.

C. At closeout of Contract, funds remaining in Allowance will be credited to Owner by Change Order.

1.4 SELECTION AND PURCHASE

A. Advise the Project Manager when final selection and purchase of allowance item must be complete to avoid delay.

1.5 SUBMITTALS

A. Submit invoices to show quantity delivered to the site for each allowance.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 INSPECTION

A. Promptly inspect all Allowance items upon delivery. Immediately report any shortage, damage, or defects to Project Manager.

3.2 PREPARATION

A. Coordinate materials and installation to assure that each item is integrated with related construction activities.

3.3 ALLOWANCE SCHEDULE

A. Include as a Contingency Allowance the lump sum amount of One Hundred Thousand dollars and no cents ($100,000.00).

END OF SECTION

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures.
2. Administrative and supervisory personnel.
3. Coordination drawings.
4. Requests for Information (RFIs).
5. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Project Work Period:

1. Work to be performed between 7:00 AM CST and 4:00 PM CST.

D. Related Sections:
1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Division 1 Section "Execution Requirements" for environmental concerns and progress cleaning.
3. Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.
4. Division 1 Section “Project Management and Coordination”

1.3 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

B. COORDINATION

C. Contractor shall be responsible for coordinating all trades of his contract, Owners Contractors, coordinating construction sequences and schedules, and coordinating actual installed location and interface of work.

D. Contractor shall supervise and direct the development of coordination drawings showing comprehensive coordination and integration of all Work of this project including, but not limited to, structural, architectural mechanical, plumbing, fire protection, electrical disciplines, and Owners Contractors.

E. Coordination drawings are intended to assist Contractor and all trades during construction and may be used to supplement shop drawings, record drawings, and other required submittals.

F. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

G. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

H. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

1.4 KEY PERSONNEL

A. Key Personnel Names: Within 5 days of Notice to Proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room. Keep list current at all times.

1.5 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

1.6 PROJECT MEETINGS

A. General: General: A weekly progress meeting is held each Thursday afternoon at 1:30 pm local time in the Cruise Terminal offices on the third level.

B. Attendees: Superintendent is required to attend.

C. Contractor shall prepare a revised schedule and progress reports. These will be shared and distributed to attendees.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

MOBILE ALABAMA CRUISE TERMINAL
SPECIAL EVENTS CALENDER
2022-2023

02/24/2023

DATE	EVENT	# - Cars	Time	Location	Services to be provided
	MAY 2023				
6	Event				
13	Event				
17	Event				
	JUNE 2023				
16	Event			2nd Floor	
17	Event				
20-22	Event				
27-28	Event				
	JULY 2023				
1	Event		6-10pm		
19 or 20	Event	**HOLD**		2nd Floor	2nd Floor/Parking
29	Event	**HOLD**			

DATE	EVENT	# - Cars	Time	Location	Services to be provided
	AUGUST 2023				
6	Event			2nd Floor	Warehouse/Dock

MOBILE ALABAMA CRUISE TERMINAL
SPECIAL EVENTS CALENDER
2022-2023

02/24/2023

20	Inspire	**HOLD**			
	SEPTEMBER 2023				
14	Event			2nd Floor	2nd Floor/Parking
	OCTOBER 2023				

The Carnival Spirit's Cruise Schedule

2023-2024 Departures from Mobile, Alabama

Date	Day	Length
10/6/2023	Fri	8 days
10/14/2023	Sat	8 days
10/22/2023	Sun	6 days
10/28/2023	Sat	8 days
11/5/2023	Sun	6 days
11/11/2023	Sat	8 days
11/19/2023	Sun	6 days
11/25/2023	Sat	8 days
12/3/2023	Sun	6 days
12/9/2023	Sat	8 days
12/17/2023	Sun	6 days
12/23/2023	Sat	8 days
12/31/2023	Sun	6 days

Date	Day	Length
1/6/2024	Sat	8 days
1/14/2024	Sun	6 days
1/20/2024	Sat	8 days
1/28/2024	Sun	6 days
2/3/2024	Sat	8 days
2/11/2024	Sun	6 days
2/17/2024	Sat	8 days
2/25/2024	Sun	6 days
3/2/2024	Sat	8 days
3/10/2024	Sun	6 days
3/16/2024	Sat	8 days
3/24/2024	Sun	6 days
3/30/2024	Sat	7 days

Cruise Duration	If Ship Leaves On:	It Returns On:
6 Day	Sunday 4:00 pm	Saturday 8:00 am
7 Day	Saturday 4:00 pm	Saturday 8:00 am
8 Day	Friday 4:00 pm	Saturday 8:00 am
8 Day	Saturday 4:00 pm	Sunday 8:00 am

Normal schedule pending unforseen delays.

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Start-up construction schedule.
2. Contractor's construction schedule.
3. Weekly construction reports.
4. Field condition reports.
5. Special reports.

1.3 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF electronic file.

B. Start-up construction schedule.

1. Approval of cost-loaded start-up construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

D. Superintendent shall keep a daily log.

E. Field Condition Reports: Submit at time of discovery of differing conditions.

F. Special Reports: Submit at time of unusual event.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Show the following:

1. Activity Duration
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Startup and Testing Time: Include not less than 15 days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work Restrictions: Show the effect of the following items on the schedule:

a. Coordination with existing construction.
b. Limitations of continued occupancies.
c. Uninterruptible services.
d. Partial occupancy before Substantial Completion.
e. Use of premises restrictions.
f. Provisions for future construction.
g. Seasonal variations.
h. Environmental control.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.

2. Unanswered RFIs.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.

F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 START-UP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within seven days of date established for the Notice to Proceed .

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

    a. Preparation and processing of submittals.
    b. Mobilization and demobilization.
    c. Purchase of materials.
    d. Delivery.
    e. Fabrication.
    f. Utility interruptions.
    g. Installation.
    h. Work by Owner that may affect or be affected by Contractor's activities.
    i. Testing and commissioning.
    j. Punch list and final completion.
    k. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.

B. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

C. Initial Issue of Schedule: Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Principal events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.

D. Schedule Updating: Submit at each weekly coordination meeting.

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

2.4 REPORTS

A. Weekly Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

END OF SECTION 01320

City of Mobile, Alabama
Cruise Terminal & Gulf Quest Maritime Museum
Cathodic Protection for Bulkheads
CT-018b-21

SECTION 01330 SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Submittal Procedure
   2. Submittal Schedule
   3. Shop Drawings
   4. Product Data and testing
   5. Samples and test data

1.3 SUBMITTAL PROCEDURES

A. Number each submittal with Project Manual specification Section number and sequential number within each section. Number re-submittals with original number and an alphabetic suffix.

B. Identify Project, Contractor, Subcontractor or supplier, pertinent Drawing sheet and detail numbers, and specification Section number, as appropriate.

C. Submit all submittals simultaneously for each Produce or Specification Section. Where multiple Products function as an assembly, group submittals for all related Products into single submittal.

D. Project Manager will not review incomplete submittals.

E. Apply Contractor's stamp, signed or initialed certifying that:
   1. Submittal was reviewed.
   2. Products, field dimensions, and adjacent construction have been verified.
   3. Information has been coordinated with requirements for Work and Contract Documents.

F. Schedule submittals to expedite the Project, and deliver to Project Manager. Coordinate submittal of related items.

G. For each submittal, allow 10 days for Project Manager's review, excluding delivery time to and from Contractor. Identify variations from Contract Documents and

Product or system limitations that may be detrimental to successful performance of completed Work.

H. Revise and resubmit submittals when required; identify all changes made since previous submittals.

I. Distribute copies of reviewed submittals to concerned parties and to Project Record Documents file. Instruct parties to promptly report any inability to comply with provisions.

1.4 SHOP DRAWINGS

A. Present information in clear and thorough manner.
B. Identify details by reference to sheet and detail numbers or areas shown on Drawings.
C. Reproductions of details contained in Contract Documents are not acceptable.
D. Submit two (2) hard copies and one (1) PDF copy (concurrently). One hard copy and a PDF copy will be returned to Contractor for printing and distribution.

1.5 PRODUCT DATA AND TESTING

A. Mark each copy to identify applicable products, models, options, and other data.
B. Supplement manufacturers' standard data to provide information unique to this Project.
C. Submit 4 hard copies and 1 PDF copy, concurrently. Project Manager will return PDF copy to contractor.
D. Provide testing reports as required by other Sections.

END OF SECTION

SECTION 01635

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:
   1. Divisions 2 through 16 Sections for specific requirements and limitations for substitutions and pre-bid approvals.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

   1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
   2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced.

   1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

      a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
c. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
d. Samples of each finish material in proposed pattern and color.
e. Certificates and qualification data.
f. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
g. Cost information, including a proposal of change, if any, in the Contract Sum (not applicable for pre-bid Submittals).
h. Impact of substitution on construction schedule.
i. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
j. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

2. Project Manager’s Action: If necessary, Project Manager will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Project Manager will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or Project Manager Supplemental Instructions for minor changes in the Work.
b. Use product specified if Project Manager does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Environmental concerns.
2. Installation of the Work.
3. Progress cleaning.
4. Starting and adjusting.
5. Protection of installed construction.
6. Correction of the Work.

B. Related Sections:
1. Division 1 Sections “Summary of the Work”, “Project Record Documents”, or "Closeout Procedures", if included in Project Manual, for submitting closeout documents and final cleaning.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: Before beginning work, investigate and verify the existence and location of utilities, mechanical and electrical systems, and other construction affecting the Work. The existence and locations of these items are unknown.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

a. Description of the Work.
b. List of detrimental conditions, including substrates.
c. List of unacceptable installation tolerances.
d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine structure, walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 1 Section "Project Management and Coordination."

D. Surface and Substrate Preparation: Comply with manufacturer's recommendations for preparation of substrates to receive subsequent work.

3.3 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches, but in no case shall the new piping be lower than the existing piping.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. 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.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous, and meet environmental requirements.

3.4 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Utilize containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where more than one installer has worked.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

H. Clean completed construction as frequently as necessary through the remainder of the construction period.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.6 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

3.7 ENVIRONMENTAL CONCERNS

1. Provide protection and conduct construction in ways that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

3.8 STORMWATER CONTROL AND DISCHARGE

1. Comply with City of Mobile and Alabama Department of Environmental Management requirements. Pay particular attention to Water Regulations and Allowable Discharges.

2. See City of Mobile Code, Chapter 17, Storm Water Management and Flood Control.

3. Obtain any necessary permits that may be required due to discharges.

END OF SECTION 01700

SECTION 01731
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. See Divisions 2 through 16 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.2 SUBMITTALS

A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
   1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
   2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
   3. Products: List products to be used and firms or entities that will perform the Work.
   4. Dates: Indicate when cutting and patching will be performed.
   5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
   6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
   7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.
   8. Welding plan, including fire watch, equipment used, protection of work in place, and safety precautions.
   9. When paving or other traffic surfaces are cut, and the cruise terminal dock or parking garage or access to either must be maintained, Contractor is to provide temporary paving surfaces adequate to support the load.

1.3 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or in increased maintenance or decreased operational life or safety.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or results in increased maintenance or decreased operational life or safety.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete, Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01731

SECTION 01732 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the following:

1. Demolition and removal of selected portions of a building.
2. Demolition and removal of selected site elements.
3. Repair procedures for selective demolition operations.

B. Definitions:

1. Remove: Detach items from existing construction and legally dispose of them.
2. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
3. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
4. Existing to Remain: Existing items of construction that are not to be removed.

1.2 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be salvaged, reinstalled or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at Contractor's option.

B. Existing wood shelving is property of the Owner and must be stored by contractor and returned to room from which it was taken.

1.3 SUBMITTALS

A. Proposed dust-control measures.

B. Proposed noise-control measures.

C. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition work, with starting and ending dates for each activity.
2. Interruption of utility services.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Locations of temporary partitions and means of egress.

5. Procedures to ensure uninterrupted progress of Owner's on-site operations.
6. Coordination of Owner’s continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

D. Inventory: Items to be removed and salvaged.

E. Photographs or Videotape: Before work begins, submit sufficiently detailed photographs or videotapes showing existing conditions of adjoining construction and site improvements, including finish surfaces, which might be misconstrued as damage caused by selective demolition operations.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with NFPA 241 and ANSI A10.6.

C. Pre-Demolition Conference: Conduct conference at Project site to comply with requirements in Division 1 section "Project Management and Coordination." Review methods and procedures related to selective demolition including, but not limited to, the following:

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by demolition operations.

1.5 PROJECT CONDITIONS

A. The Contractor shall remove the existing items required for installation of New Work.

B. The Contractor shall remove and reinstall existing items required for the installation of New Work.

C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work. If any material suspected of containing hazardous materials is encountered, do not disturb the material.

1. Immediately notify the Owner's Representative.
2. Hazardous materials will be removed by the Owner.

D. On-site storage or sale of removed items or materials will not be permitted.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

F. Fire Protection: Maintain fire-protection services during selective demolition operations.

G. Provide Fire Watch and ventilation when welding or cutting metal within the building.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

A. Where available and appropriate for use, provide repair materials that are identical to existing materials.

B. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

C. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities to be removed have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled, and items to be removed and salvaged.

D. When encountering unanticipated mechanical, electrical or structural elements that conflict with the intended function or design, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Owner's Representative.

E. Survey the condition of the building to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.

F. Perform surveys as the selective demolition progresses to detect hazards resulting from the activities.

3.2 UTILITY SERVICES

A. Existing Utilities: Maintain services and protect them against damage during selective demolition operations.

B. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by authorities having jurisdiction.
   1. Provide not less than 5 working days' notice to the Owner's Representative if shutdown of service is required.

C. Utility Requirements:

   1. Owner will arrange to shut off utilities when requested by Contractor.
   2. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit after bypassing.
   3. Do not start selective demolition work until utility disconnection and sealing have been completed and verified.

3.3 PREPARATION

A. Dangerous Materials: Drain, purge or otherwise remove, collect and dispose of chemicals, gases, explosives, acids, flammables or other dangerous materials before proceeding with selective demolition operations.

B. Temporary Site Control: Remove debris and conduct demolition operations in a manner to ensure minimum interference with roads, streets, walks, walkways, corridors, and other adjacent occupied or used facilities.

   1. Do not close or obstruct streets, walks, walkways, corridors, or other adjacent occupied or used facilities without permission from the Owner's Representative and authorities having jurisdiction.

C. Temporary Facilities: Conduct demolition operations in a manner to prevent injury to people and damage to adjacent building and facilities to remain. Provide for safe passage of people around selective demolition area.

   1. Erect temporary protection, such as walks, fences, railings, canopies and covered passageways, where required for safety of persons.
   2. Protect existing site improvements, appurtenances and landscaping to remain.
   3. Protect walls, ceilings, floors and other existing finish work that are to remain and are exposed during selective demolition operations.
   4. Protect furniture, furnishings and equipment that have not been removed.

D. Temporary Enclosures: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

E. Temporary Shoring: Provide and maintain shoring, bracing or other structural support to preserve stability and prevent movement, settlement or collapse of building to be

selectively demolished. Strengthen or add new supports when required during the progress of selective demolition.

3.4 POLLUTION AND SECURITY CONTROLS

A. Dust Control: Use temporary enclosures and other suitable methods complying with governing environmental protection regulations to limit the spread of dust and dirt.

1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding or pollution.
2. Wet mop floors to eliminate trackable dirt, and wipe down walls and doors of demolition enclosure daily.

B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas. Clean evidence of tracking by transport means on interior.

C. Cleaning: Clean adjacent structures and site improvements of dust, dirt and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

D. Provide chain link fencing with 48” wide gates at both sides of room B101 Bulk Storage to secure items in that room. Fencing shall extend to structure. Owner will provide padlock.

3.5 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete selective demolition within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically. Conduct work in an order that avoids transporting removed items and debris through areas with completed selective demolition work, and that allows for removal of items before supports for those items are removed in another area.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage adjoining construction to remain. Use hand or small power tools designed for sawing or grinding, not for hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations, and maintain adequate ventilation when using cutting torches.

5. Remove decayed, vermin-infested and other dangerous or unsuitable materials, and promptly dispose of these materials off-site.
6. Lower removed structural framing members to ground by method suitable to avoid free fall and to prevent floor impact or dust generation.
7. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

B. Existing Facilities: Comply with building manager's regulations for using and protecting corridors, stairs, walkways, loading docks, building entries and other building facilities during selective demolition operations.

C. Disposal of Salvaged Items and Items to be Reinstalled:

1. Reinstallation: Where items are indicated to be removed and reinstalled, install the materials and equipment in locations indicated. Comply with installation requirements for new materials and equipment.
2. Delivery to Owner: Where items are indicated to be removed and reinstalled, transport the materials and equipment to the area on-site designated by the Owner's Representative or indicated on the Drawings.

D. Protection of Salvaged Items: Pack or crate salvaged materials and equipment after removal. Identify contents of containers. Protect items from damage during transport and storage.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Owner's Representative, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

F. Concrete: Demolish concrete in small sections. At junctures with construction to remain, cut concrete using power-driven masonry saw or hand tools; do not use power-driven impact tools.

G. Resilient and Carpeted Floor Coverings: Remove floor coverings and adhesive, and prepare substrate for new floor finish, as per manufacturer.

3.6 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.

B. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

C. Finishes: Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

D. Floor and Wall Surfaces: Patch and repair floor and wall surfaces in each space where demolished walls or partitions result in extending one finished area into another. Provide a flush and even surface of uniform color and appearance.

1. Closely match texture and finish of existing adjacent surface.
2. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
3. Where patching smooth painted surfaces, extend final paint coat over entire unbroken surface containing the patch after the patched surface has received primer and other specified undercoats.
4. Remove existing floor, including access flooring, and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.
5. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

SECTION 01710

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at final completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect’s signature for receipt of submittals.

5. Submit testing, adjusting, and balancing records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
6. Advise Owner of changeover in utility services.

7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
8. Complete final cleaning requirements.
9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit final completion photographic documentation.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
   1. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
   2. Include the following information at the top of each page:

      a. Project name.
      b. Date.
      c. Name of Architect.
      d. Name of Contractor.
      e. Page number.

   3. Submit list of incomplete items in the following format:

      a. MS Excel electronic file. Architect will return annotated file.
      b. PDF electronic file. Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

D. Warranties in Paper Form:

   1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
   2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
   3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

a. Clean Project site, and grounds, in areas disturbed by construction and delivery activities, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Remove tools, construction equipment, machinery, and surplus material from Project site.
d. Clean interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
e. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
f. Sweep concrete floors broom clean in unoccupied spaces.

g. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
i. Remove labels that are not permanent.
j. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
k. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
l. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
m. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
o. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION

SECTION 017823
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
   1. Operation manuals for systems, subsystems, and equipment.
   2. Maintenance manuals for the care and maintenance of products, materials, and finishes, systems and equipment.

B. See Divisions 01 through 16 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.2 SUBMITTALS

A. Manual: Submit two copies of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 10 days after final inspection.

   1. Correct or modify each manual to comply with Architect's comments. Submit **2** copies of each corrected manual within 10 days of receipt of Architect's comments.

   2. Provide PDF copies on 2 discs. Submit with the corrected manual.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

   1. Subject matter included in manual.
   2. Name and address of Project.
   3. Name and address of Owner.
   4. Date of submittal.

5. Name, address, and telephone number of Contractor.
6. Name and address of Architect and Engineer.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

   a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

   a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
   b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.

B. Descriptions: Include the following:

1. Product name and model number.

2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.3 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:

D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, and adjusting instructions, and demonstration and training videotape if available, that detail essential maintenance procedures.

E. Submit demonstration and training video for all lighting control systems.

F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

D. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.

E. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. See Divisions 01 through 16 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.2 SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit two sets of marked-up Record Prints.
2. Number of Copies: Submit copies of Record Drawings as follows:
   a. Final Submittal: Submit two sets of marked-up Record Prints

B. Record Specifications: Submit two copies of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit two copies of each Product Data submittal.

D. Submit PDF’s of Record Drawings, Record Specifications, Record Change Orders, Requests for Proposal, Documentation of use of Allowances, Product and Contractor’s Warrantees, Product Test Reports, Final Surveys, Record Product Data, etc on 2 discs.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
4. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect and Engineer.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary 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 information necessary to provide a record of selections made.
4. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Completed Test Reports.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

SECTION 05120 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Structural steel.
2. Grout.

1.3 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.

C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint, including the following:

1. Power source (constant current or constant voltage).
2. Electrode manufacturer and trade name, for demand critical welds.

D. Qualification Data: For qualified Installer and fabricator.

E. Source quality-control reports.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

B. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.
2. AISC 360.
3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
2. Clean and relubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.7 COORDINATION

A. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A 992/A 992M, Grade 50 (345).

B. Channels, Angles, M , S-Shapes: ASTM A 36/A 36M Grade 50 (345).

C. Plate and Bar: ASTM A 36/A 36M.

D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

E. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.

1. Weight Class: As Indicated.
2. Finish: Black except where indicated to be galvanized.

F. Steel Castings: ASTM A 216/A 216M, Grade WCB with supplementary requirement S11.

G. Steel Forgings: ASTM A 668/A 668M.

H. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.

B. Zinc-Coated High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade DH (ASTM A 563M, Class 10S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers.

1. Finish: Hot-dip zinc coating.

C. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.3 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.4 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.

1. Camber structural-steel members where indicated.
2. Fabricate beams with rolling camber up.
3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
4. Mark and match-mark materials for field assembly.
5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to [SSPC-SP 2, "Hand Tool Cleaning] [SSPC-SP 3, "Power Tool Cleaning]."

F. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.

1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.5 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.6 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.

1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
2. Galvanize lintels and shelf angles attached to structural-steel frame and located in exterior walls.

2.7 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.

1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

1. Liquid Penetrant Inspection: ASTM E 165.
2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
3. Ultrasonic Inspection: ASTM E 164.
4. Radiographic Inspection: ASTM E 94.

E. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1/D1.1M for stud welding and as follows:

1. Bend tests will be performed if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

PART 3 - EXECUTION

3.1 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.2 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.

3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated.

F. Do not use thermal cutting during erection.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

3.3 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened or Slip critical as indicated.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.

B. Bolted Connections: Bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.

1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.

D. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:

1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
2. Conduct tests on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.5 REPAIRS AND PROTECTION

A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.

END OF SECTION 05120

TECHNICAL SPECIFICATIONS

IMPRESSED CURRENT LANDSIDE CP SYSTEM SPECIFICATIONS

September 30, 2022

CITY OF MOBILE ALABAMA

MOBILE CRUISE TERMINAL

Table of Contents

SECTION 1- GENERAL

1 SCOPE

1.1 The work consists of furnishing all labor, equipment, and materials, and performing all operations necessary to complete the following:

1.2 Install one (1) cathodic protection Rectifier.

1.3 Install one (1) each "linear" groundbed cathodic protection system to cathodically protect the landside of the seawall bulkhead associated with the Mobile Cruise Line Terminal, in Mobile, Alabama.

1.4 Conduct a native potential survey on the landside of the seawall at the Mobile Cruise Line Terminal.

1.5 Energize, adjust, and checkout the cathodic protection system after installation.

1.6 The linear anode is to be installed to a depth of twenty feet (20') which parallels the seawall. The soil resistivity was measured to be 2449 ohm-cm at the 20-foot depth. A soil boring log of this area shows that from 0' to -20' the soil consists of a loose brown, fine sand. From -20' to -35', soft clays were found.

1.7 The City of Mobile shall be responsible for furnishing and/or installing the AC power to the general area of the rectifier. This is to include the installation of a 480/3/60 three phase disconnect box, rated at 40 amps. This disconnect is to be installed within ten feet (10) of the rectifier's control panel.

1.8 Easements and permits as may be required.

1.9 A storage area for materials will be provided by the Mobile Cruise Line Terminal. It will be located underneath the two elevated platforms where the rectifiers are going to be located.

1.10 The drawings included with this specification indicate the general arrangement of the cathodic protection system. If the contractor desires to make changes to the CP system installation as shown on these drawings, then the changes shall be submitted to the owner's engineer for approval. This approval process must be done prior to any work being initiated as it relates to any departures from the CP system drawings of this specification.

2 CONTRACTOR CREDENTIALS

2.1 This CP system shall be installed, energized, and evaluated by a firm regularly engaged in the field of cathodic protection of marine seawall bulkheads and possess an accepted history in the installation of these kinds of marine installations. At all times during construction, the contractor shall maintain a qualified supervisor to direct the construction activity and interface with the City of Mobile's representative, as required.

2.2 The company that is awarded the contract to install the waterside CP system at Mobile Cruise Terminal must have at least ten (10) years of experience in the design and installation of CP systems on marine seawall bulkheads.

2.3 The supervisor for this job must possess the following two (2) AMPP (NACE) accreditations: 1) Corrosion Specialist-G and 2) Cathodic Protection Specialist or possess the AMPP (NACE) Accreditation of CP4. The firm who is awarded this project will provide all labor, materials, and supervision for the installation of the waterside CP system at Mobile Cruise Terminal. The supervisor must be on job site at all times while all construction/installation work is being performed.

2.4 The supervisor must have five (5) years of experience in installing and servicing CP systems for marine seawall bulkheads. This is to be evidence by the successful completion of five marine seawall bulkhead projects.

2.5 The firm that is awarded this contract must possess an Alabama State Contractors license at the time of bidding this project.

2.6 Evidence of the company's work experience/history in the field of marine (seawall) CP systems, the Supervisor's AMPP (NACE) accreditations, and his work experience/ history, to include a copy of the firm's Alabama Contractors License must be submitted with the bid for this project, otherwise the bid will not be considered as a valid response to the solicitation.

3 STANDARD PRODUCTS

3.1 Unless otherwise indicated in writing by the owner's engineer, materials under these specifications shall be considered standard products from manufacturers regularly engaged in the production of cathodic protection equipment and materials and of the manufacturer's latest approved standard design.

3.2 Where brand names and/or numbers are specified, it is understood that "or equal" shall apply. The brand names have been used only to describe the standard of quality, performance, and characteristics desired. However, if bidding an "equivalent to the brand specified, it is mandatory that the bidder furnish with his bid, detailed literature cutsheets, and/or specifications to be used in evaluation of products. Failure to submit said information on any substitutions the bidder wishes to make will be cause for his bid not to be considered. Substitutions will not be allowed after the bid has been awarded.

4 MATERIAL SUBMITTALS

4.1 Contractor shall submit to owner for approval, a complete list of material and equipment. The list shall include catalog numbers, cuts, diagrams, drawings, and other descriptive date required by the owner. No consideration will be given to partial lists and if not submitted may result in the cancelation of the contractor's purchase order:

Anode – Linear Distributed Anode System
Positive Header Cables
Surface Cable Routing Junction Box Frame and Cover Rectifier
Negative Structure Header Cables
Electrical Conduit

SECTION 2- PRODUCTS

1 RECTIFIERS

The landside rectifier shall be manufactured by Universal Rectifiers Model No. OSOI-100-200 CBCKRWZ.

- OSOI = Oil Cooled, Non-Hazardous area, Manual link bar control, Silicon stack
- DC rating: 100 Volts – 200 Amps
- C = 230/460 VAC, 3 Phase, 60 Hertz input
- B = Set to run on 460 VAC
- C = AC & DC lightning arrestors

- K = DC Failure Light
- R = 115 VAC convenience outlet on the front panel
- W= Terminal block for remote Monitor, terminals to include DC Volts=/-. Amps =/-, 15 VDC
- Z=Hybrid bridge stack with 3ph 12-volt relay for remote interruption (Apply 12 VDC to interrupt)
- Z = Binding Posts for Interrupt
- Z = One Positive Terminal for #2/0 cable
- Z = Two Negative Terminals for #1/0 cable with a shunt on each of the negative terminals
- Z - One 2" DC knockout and one 1" AC knockout
- Z – 12" Stand for Cabinet
- Type GO case, Hot Dip galvanized, approx. 1600 pounds
- 600 Gallons of transformer oil required

1.1 APPLICABLE STANDARDS

1.1.1 EMA Publication No. MR 20-1958, reaffirmed by NEMA 1971-Semiconductor Rectifiers, Cathodic Protection Units.

1.1.2 NEMA Standard Publication No. 250-1979, including Rev. No. 1 – December 1980, Enclosures for Electrical Equipment (1000 Volts maximum)

1.2 GENERAL

1.2.1 The AC input of the rectifiers shall be 115, 230 or 460 VAC – single or three phase – 60 Cycle.

1.3 ENCLOSURE

1.3.1 The rectifier case shall be NEMA 4X, completely weatherproof for outdoor use. The case shall be constructed of not less than eleven-gauge steel. All fabrication welds shall be clean and smooth. The entire case shall be hot dip galvanized per ASTM-123.

1.3.1.1 The cabinet is to be equipped with an instrument compartment welded to one end of the case prior to galvanizing. This compartment shall house the circuit breaker, output meters and the output terminals and shall have a hinged door and lockable stainless-steel latch.

1.3.1.2 The lid on the oil chamber shall be hinged on one side and have a minimum of four stainless steel latches to provide a moisture proof seal. The gasket on the lid shall be an oil resistant neoprene sponge.

1.3.2 On rectifiers 500 watts and above, the transformer and stack shall be mounted on separate removable racks in the oil chamber.

1.3.3 The internal horizontal panel on which the voltage adjustment taps, AC input terminals and D.C. terminals are mounted shall be at least four inches below the recommended oil level as marked within the oil chamber.

1.3.4 All connecting wires from oil chamber to the instrument compartment shall be sealed with an oil resistant compound. These wires shall have a ½" gap in the insulation above oil level to prevent siphoning.

1.3.5 A grounding lug to accommodate a #6 wire shall be provide on the outside of the cabinet.

1.4 TRANSFORMER

1.4.1 The transformer shall be specifically designed for use in a cathodic protection rectifier, having separate primary and secondary copper windings. Wire size on both windings is to be based on a minimum of 1,000 circular mils per ampere. The material used in the core of the transformers shall be of such quality that core losses do not exceed 0.62 watts per pound. The amount of core material shall be no less than the amount given by the following formula:
AC = The square root of the watts in the primary divided by 5.58

1.4.2 AC = The minimum area of core in square inches. The core area is figured as the cross-sectional area of that portion of the core which passes through the coil.

1.4.3 The transformer shall be immersed in class F transformer varnish until all taps, insulating materials, outer wrapping and coil windings have been completely saturated. The transformer will then be oven baked until completely dry.

1.4.4 When a three-phase rectifier is specified, it shall be provided with a three-phase transformer with three separate wound legs or three separate transformers.

1.4.5 The secondary shall have a sufficient number of coarse and fine taps to provide a minimum of 18 equal step of adjustment. These taps shall be brought out to link bar arrangement for adjusting the output of the rectifier.

1.4.6 The link bars shall be terminated on at least a 5/16” stud lug that has one end drilled out so that the transformer tap wire can be soldered to the back of the stud.

1.4.7 Quick change plastic knobs with brass inserts shall be used to connect the link bars to the studs.

1.5 RECTIFYING ELEMENTS

1.5.1 The rectifier stack shall consist of high current density selenium cell arranged to give full wave rectification. Ratings shall be within the manufacturer’s recommended current rating for continuous operation with a 50 degrees C ambient temperature.

1.5.2 The RMS voltage rating of the rectifier stack shall be sufficient to withstand, without damage, the full output of the transformer secondary when the load is disconnected from the D. C. terminals, i.e.., under open circuit conditions.

1.5.3 When silicon is used as the rectifying element, current rating for continuous operation shall be for 50 degrees C. ambient and the PRV rating of the diodes shall be at least 1200 PIV. The diodes shall be protected against high voltage surges with selenium surge suppressors.

1.5.4 Current and voltage shall be de-rated for higher ambient temperature, where required, and in accordance with the manufacturer’s recommendations.

1.6 PROTECTIVE DEVICES

1.6.1 The entire unit is to be protected against overload and short circuit with a fully magnetic circuit breaker of proper rating connected between the A.C. supply and transformer primary.

1.6.2 Circuit breakers shall have two poles for single phase units and three poles for three phase units. In the case of 100 amps or less silicon rectifiers, single pole, fully magnetic circuit breakers shall be inserted in one leg of the A.C. secondary of single-phase units and in at least two of the secondary legs of a three-phase unit.

1.6.2.1 All units above 100 amps shall be bolt in style fuses and shall not rely on pressure type fuse holders.

1.7 DC METERS

1.7.1 One D.C. voltmeter and one D.C. ammeter shall be provided. Each will have an accuracy of 2% full scale. Hoyt # 17/3 meters or approved equal shall have minimum scale lengths of 1 5/8".

1.7.2 The ammeter shall be connected to an external shunt with and accuracy of at least 1%.

1.7.3 The shunt shall be plainly marked to show ampere rating and millivolt drop. This shunt is to be mounted on the front panel of the rectifier so as to be readily accessible for meter accuracy checks.

1.8 DC TERMINALS

1.8.1 Solderless lugs rated for full rectifier output current shall be provided for the positive and negative output terminals of the rectifier and shall be mounted on an insulated panel.

1.8.2 Output terminals shall be clearly identified on the panel as "Positive" and "Negative."

1.9 WIRING AND CONDUCTORS

1.9.1 All wiring within the rectifier, except the meter circuits, shall be of the high temperature motor lead wire with a minimum of 105 degrees C rating. Wire size shall be based on not less than 500 circular mils per ampere.

1.9.2 All current carrying bolts, terminals and connections made through the panel shall be either soldered to the bolt head or made by use of double nut method, so as not to depend on the compression strength of the panel to maintain a tight connection.

1.9.3 Tap changing studs and output lugs shall be a minimum of 5/16" diameter.

1.10 RECTIFIER DATA

1.10.1 Each rectifier shall be provided with an engraved metal nameplate with the following information.

1. Name of manufacturer
2. AC input voltage
3. AC input amperes
4. AC frequency
5. Phase
6. DC output volts
7. DC output amperes
8. Ambient temperature in degrees C.

1.10.2 In addition to this a waterproof envelope, placed in a suitable holder in the rectifier door, shall contain a complete wiring diagram, operating and maintenance manual and a copy of the test data obtained on the final bench check out of the rectifier.

1.11 INSTRUMENT PANEL

1.11.1 Phenolic grade XXX, non-conductive, moisture resistant, specifically designed for panel board use.

2 AC POWER

2.1 AC Power to be supplied by the City of Mobile. The AC Power supplied will terminate in an AC Disconnect Box within ten feet (10') of the rectifier. Please refer to Section 1, paragraph 1.7.

3 REMOTE RECTIFIER MONITORING

3.1 The rectifier, if required by the owner, is to have an American Innovation Satellite Rectifier Remote Monitor Unit Model No. RM4014S with Surge Arrester connected to the rectifier. At the time of the preparation of this specification, the owner has not made a decision as to whether this will be a requirement of the project or not.

4 LINEAR ANODES

4.1 GENERAL DESCRIPTION

4.1.1 The landside anode shall be Ceranode Piggyback Linear Anode in Coke Sock: Model No. PBL-CS-559 ft.-STI-125H-20 ft.-583 ft.-1/0 AWG-KYNAR-CXFH – 559 ft. Active Length, CXFH connection, 20 ft. Lead and 579 ft. Tail plus 4 ft. for 2 ft. loop back, using 1/0 AWG Kynar20/HMWPR65 Cable rated at 400mAsqft for 20 years.

4.1.2 The linear anode assembly shall be pre-assembled at CerAnode and placed on a 48" wooden installation reel.

4.1.3 There will be 20ft lead and 610ft tail + 4ft for 2ft loop back, "Fold in Half", using 1/0 AWG Kynar20/HMWPE65 Cable

4.1.4 Please refer to the drawing included with this specification for installation details of the installed linear anode assembly.

4.1.5 The anode must be assembled with Loresco SC3 carbon backfill in a natural cotton fiber sock as provided by CerAnode. There can be no substitutions on this specification.

4.2 CURRENT DENSITY AND ANODE LIFE

4.2.1 The linear anode shall be rated at 400 ma per linear foot for an estimated life of 20 years. This application in soil will allow for a discharge rate of 236 amps for 20 years. At a discharge rate of 157 amps, the estimated life for this linear anode is 30 years.

4.2.2 This rating is good down to soil resistivity of 1300 ohm-cm.

4.3 LINEAR ANODE-TO-CABLE CONNECTION

4.3.1 The anode-to-cable connection shall be made at the center of each anode and have an electrical resistance of less than 0.001 ohm.

4.4 LINEAR ANODE QUALITY ASSURANCE

4.4.1 The linear anode assembly as assembled by CerAnode renders a 7-year factory warranty, when the linear anode is installed and operated as per the warranty specifications. This warranty is from CerAnode and not from the contractor

4.5 LINEAR ANODE HEADER CABLE

4.5.1 From the end of the Linear Anode back to the rectifier, 2/0 AWG HMWPE cable with "RED INSULATION" is to be used.

4.6 LINEAR ANODE HEADER CABLE SPLICE

4.6.1 The linear anode is to be spliced to the rectifier's positive header cable using the Burndy "C" Crimp System. The "C" crimp to be used is Burndy Model No. YC26C26.

4.6.2 The splice kit to be used to encapsulate the splice of the linear anode cable to the rectifier's positive header cable is to be Royston's "Splice Right" splice kit.

5 RECTIFIER-TO-STRUCTURE (NEGATIVE) CABLE

5.1 Two (2) #1/0 AWG HMWPE cables will be welded to the front (water side) of the seawall via a Steel Structure Connection Plate. The location of these two plates is at the 150-foot location and 450-foot location as measured from the southeast corner of the seawall of the Mobile Cruise Line Terminal. These negative cable connection plates will be welded to the seawall about five feet (5') from the seafloor bottom. The plate and weld area to the seawall are to be coated liberally with underwater Alocit 28.15 Underwater Epoxy coating. These two cables will be routed along the face of the seawall on the bottom. When these two cables reach the area where the Surface Cable Routing Box is located, which is near the 350-foot location as measured from the southeast corner of this seawall; they be routed vertically to this Surface Cable Routing Box and then on to their appropriate landside rectifier. These cables along with the other cables installed along the face of the seawall are to be overlaid with Rip Rap Burlap Concrete Bags. All these cables are then routed to the top of the dock at this location via 2" PVC schedule 80 conduits. This makes a total of four negative cables that will be routed back to their respective rectifier for the CP systems associated with the Mobile Cruise Line Terminal seawall. Two (2) negative cables for the two (2) waterside rectifiers, and two (2) negative cables for the one (1) landside rectifier. The two landside negative cables are to be terminated in its appropriate rectifier cabinet.

5.2 CABLE-TO-STRUCTURE CONNECTION

5.2.1 The rectifier's negative cathodic protection cable shall be thermite welded to the structure steel connection plate which measures 6" by 6" by ¼" thick. The steel connection plate is then welded to the seawall with the double pass welding procedure. The entire plate and cable thermite weld area is to be liberally coated with Alocit 28.15 Underwater Epoxy coating.

5.3 THERMITE WELD COATING

5.3.1 Thermite welds shall be protected and coated with Alocit 28.15 Underwater Epoxy coating.

5.4 D.C. ELECTRICAL CONDUIT

5.4.1 D.C. electrical conduit and fittings shall be schedule 80 conduit grade PVC, conforming to all codes and ordinances. All 90 degree and 45-degree ells shall be the "sweep" style elbows.

5.5 SURFACE CABLE ROUTING JUNCTION BOXES

5.5.1 For the Cruise Line Terminal's "Landside" CP system, there will be two (2) of these Surface Cable Routing Junction Boxes. The aircraft rated frame and cover is to be EJ USA, Inc.'s Model 8083 Frame and Cover. They are to be used for the purposes of gaining access to the inside of the Surface Cable Routing Boxes. These boxes are where all of the CP systems cables are located as they are routed to their appropriate rectifier. The junction box itself is to be constructed using rebar and concrete. The actual concrete construction details for the Surface Cable Routing Junction Boxes to which the EJ Frame and Cover are to be mounted, are shown in the drawing package with this specification.

5.5.2 One (1) of these Surface Cable Routing Junction Boxes is located at the northeast leg of the elevated platform where the rectifiers are installed. Before this box is actually constructed, this location serves as the "TAIL" pit for the directional bore that will be made to connect the linear anode's "HEAD" pit to this "TAIL" pit at the rectifier elevated platform. The linear anode assemblies' rectifier positive header cables will be routed through this junction box on their way to their appropriate rectifier. Please refer to the drawing provided with this specification for more detailed information.

5.5.3 The second Surface Cable Routing Junction Box is located where the two Linear Anode head pits are located in the parking lot of the Maritime Museum. In fact, there are not two "HEAD" pits, but just one large "HEAD" pit at this location and it is located where the two linear anode assemblies come together. One of the linear anode assemblies is for the Cruise Line Terminal and the other linear anode assembly is for the Maritime Museum. The directional bores for these two linear anode assemblies will be made from this same "HEAD" pit location. One will be made to the south and one will be made to the north. Please refer to the drawing package provided with this specification for more details. The directional bore that will allow for the linear anode positive header cables to be routed and connected to their appropriate rectifier, will be made to the southeast from this linear anode "HEAD" pit. Again, please refer to the drawings provided with this specification for more detailed information.

5.5.4 If the need arises, the contractor may make cable splices in the Surface Cable Routing Boxes. These splices are permitted for the purposes of facilitating the arduous task of cable installation. These splices are to use the Burndy Crimping System, using either the Burndy "C" Crimps, or the Burndy "Butt" Crimps. The spliced crimps are then to be sealed with Royston's "Splice Right" splice kits.

5.5.5 Header cable Surface Cable Routing Junction Boxes are to be EJ USA, Inc. Model No. 8083 and be rated for "Airport Traffic".

SECTION 3- EXECUTION AND INSTALLATION

1 LANDSIDE CATHODIC PROTECTION SYSTEM

1.1 The linear landside anode consists of one pre-assembled linear anode with an approximate active length of 590-feet long which uses the 400 mA MMO wire anode material.

1.2 The linear anode system is to be directional bored to an installed depth of twenty feet (20'). The directional bore will be done from the head pit located in the parking lot of the Maritime Museum. The bore is from the head pit to the south. Refer to Drawing included with this specification for specific details.

1.3 The linear anode landside positive header cable is to be 2/0 AWG HMWPE with RED insulation and is routed back to its rectifier via Surface Cable Routing Junction Boxes. The boxes are to be manufactured by EJ USA, Inc. They are "airport rated" and are Model No. 8083 Junction Box Frame and Cover.

1.4 A second directional bore will be made from this head pit down to a new tail pit that is located next to the northeast leg of the rectifier elevated platform. The general direction of this bore is to the southeast. The bore will result in two each 2/0 HMWPE "RED INSULATED" cables being pulled back to the linear anode head pit. One cable is spliced to the Mobile Cruise Terminal's linear anode assembly, and the other cable will be spliced to the Mobile Maritime Museum's linear anode assembly.

2 EXCAVATION, TRENCHING, AND BACKFILLING

2.1 Provide shoring and/or sheeting where excavation or field conditions do not allow adequate slope for banks.

2.2 Trenching excavation for cable installation in conduit shall be made as narrow as practical, but width should allow proper compaction. Trenches shall not be widened by scraping or loosening materials from the side. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

2.3 Depth of Trench. Trenches shall be excavated to a depth that will allow the cable conduit to be laid at a minimum depth of twenty-four inches (24").

2.4 Backfilling shall be accomplished in such a manner that no damage is done to the conduit and/or the cable insulation.

2.5 Compaction of backfill shall be to 95% per ASTM D1557 (modified proctor). In soft, weak, or wet soils, tamp backfill to consolidate and densify the material.

2.6 Reconditioning of Surfaces: Surfaces disturbed during the excavation for conduit runs shall be of the same kind as what was removed during excavations.

3 RECTIFIER UNITS

3.1 Actual rectifier DC output voltage required shall be determined by actual anode(s) to seawall bulkhead resistance. This resistance value is to be measured by using a temporary DC power source and powering up the installed linear anode system. Then

and only then can the rectifier's voltage capability be ascertained. Hence, the rectifier shall not be ordered until CP circuit resistance has been measured.

3.2 The rectifier specified in the Bill of Materials was based on data collected from the field (soil resistivity). It is felt that the calculated circuit resistance of this rectifier will be very close to what will be actually purchased after the actual circuit resistance is determined. Unless there is a significant difference between the calculated circuit resistance and the actual circuit resistance, then a price change will not be allowed for the rectifier. A" significant difference" is defined as a circuit resistance difference of more than 10%. If a price change is requested on this item, then the contractor shall submit a copy of the original quoted cost from the manufacturer and a copy of the quote for the rectifier based on the actual circuit resistance of the CP system. The amount of the price change allowed will be limited to the rectifier's cost difference with a 20% profit margin applied to the cost difference (Cost Difference X 1.20 = Allowed Price Change).

3.3 The rectifier and related equipment shall comply with local and national electric codes. The AC power disconnect for the rectifier units shall be furnished and connected by owner. The connection from the AC Power disconnect to the rectifier shall be provided by the contractor.

4 ENERGIZING AND TESTING

4.1 AMPP (NACE) Criteria The achievement of cathodic protection is to be based on acceptable AMPP (NACE) criteria. The AMPP (NACE) criterion that is to be used for the seawall bulkhead is SP0169-2013 and it states under section 6.2.1.2: *"A minimum of 100 mv of cathodic polarization. Either the formation or decay of polarization must be measured to satisfy this criterion.* There is an alternative criterion stated under section 6.2.1.3 which states: *"A structure-to-electrolyte potential of -850 mv or more negative as measured with respect to a saturated copper/copper sulfate (CSE) reference electrode. This potential may be either a direct measurement of the polarized potential or a current-applied potential. Interpretation of a current-applied measurement requires consideration of the significance of voltage drops in the earth and metallic parts."*

4.2 Since this project involves seawater, a silver-silver chloride (AGCL) reference cell will be used. The threshold potential of -850 mV using a CSE reference cell is equal to the potential of -800 mV when an AGCL reference cell is used.

4.3 To properly consider voltage drops in the CP system, a complete set of native potential readings are to be taken and recorded. After the system, has been energized and adjusted an "instant on/off" survey is to be conducted on the structure.

4.4 Upon completion of the installation of the landside CP system, the system shall be energized, tested and adjusted for proper operation. When the seawall bulkhead has been under cathodic protection for at least 30 days, an "instant on/off" survey is to be conducted. "Instant off" structure potentials from minus -800 mV to minus -1150 mV as measured with a silver-silver chloride reference electrode, shall be considered acceptable.

4.5 After the initial survey, it highly recommended that an annual survey be conducted every year to insure effective cathodic protection is being maintained.

4.6 Report: Upon completion of the post installation survey, a written report shall be submitted that will include the following:

Rectifier data sheets to include the final setting and DC output.
Operation and maintenance instructions
Potential data - *native*
Potential data – *polarized*

5 VENDOR RESOURCES

5.1 Stainless Steel Brackets

5.1.1 Gulf States Hangers and Supports: 7100 Bellingrath Road, Theodore, AL 36582 (251-653-6228)

5.2 Linear Anode

5.2.1 CerAnode Technologies International: Greg Smith; 4011 Riverside Dr., Dayton Ohio 45405 (937-278-6547

5.3 Underwater Diving

5.3.1 Commercial Diving Services: Doug Christopher; 4376 Dawes Lane East; Mobile, AL 36619 (251-665-0017)

5.4 Universal Rectifiers

5.4.1 Universal Rectifiers: Mike Hill; P.O. Box 1640, Rosenberg, TX 77471 (281-342-8471)

5.5 EJ USA, Inc.

5.5.1 EJ USA Inc.: 800-626-4653

6 ERRORS AND OMISSIONS

6.1 DISCLAIMER

6.1.1 It is the contractor's responsibility to verify quantities, part numbers, and viability of all materials specified in this specification, as there may be errors and omissions.

6.1.2 It is also the contractor's responsibility to verify the design of the cathodic protection system as to its ability to achieve cathodic protection on the structures covered by this specification.

6.1.3 It is the responsibility of the contractor to achieve cathodic protection on all structures covered by the contract.

6.2 PHYSICAL CHANGES

6.2.1 The contractor may at his discretion move the linear anode and related cable runs to locations that are different from the locations shown on the installation drawings. These locations changes can be associated with underground and/or unknown obstacles that are encountered during installation. These changes are to be noted and communicated to the City's engineer on the project, as well as being shown on the contractor's "as-built" drawings.

7 WARRANTY

7.1 LIMITED WARRANTY: This limited Warranty covers the installation and the equipment associated with the Cathodic Protection System (the "Product") supplied by the contractor ("installer") for this project.

7.2 LIMITED ONE YEAR WARRANTY: Subject to the limitations set forth below, Installer warrants to the purchaser ("Buyer") that the Product will be free from defects or failure caused by improper installation for a period of one (1) year from the Date of Installation ("the Warranty Period"). The Date of Installation shall be the date listed on the Purchase Invoice provided to Buyer by Installer.

TECHNICAL SPECIFICATIONS

IMPRESSED CURRENT LANDSIDE CP SYSTEM SPECIFICATIONS

September 30, 2022

CITY OF MOBILE ALABAMA

MOBILE MARITIME MUSEUM

Table of Contents

SECTION 1- GENERAL

1 SCOPE

1.1 The work consists of furnishing all labor, equipment and materials, and performing all operations necessary to complete the following:

1.2 Install one (1) cathodic protection rectifier.

1.3 Install one (1) each "linear" groundbed cathodic protection system to cathodically protect the landside of the seawall bulkhead associated with the Mobile Maritime Museum, in Mobile, Alabama.

1.4 Conduct a native potential survey on the landside of the seawall at the Mobile Maritime Museum.

1.5 Energize, adjust, and checkout the cathodic protection system after installation.

1.6 The linear anode is to be installed to a depth of twenty-feet (20') which parallels the seawall. The soil resistivity was measured to be 2449 ohm-cm at the 20-foot depth. A soil boring log of this area shows that from 0' to -20' the soil consists of a loose brown, fine sand. From -20' to -35', soft clays were found.

1.7 The City of Mobile shall be responsible for furnishing and/or installing the AC power to the general area of the rectifier. This is to include the installation of a 480/3/60 three phase disconnect box, rated at 40 amps. This disconnect is to be installed within ten-feet (10) of the rectifier's control panel.

1.8 Easements and permits as may be required.

1.9 A storage area for materials will be provided by the Mobile Cruise Line Terminal. It will be located underneath the two elevated platforms where the rectifiers are going to be located.

1.10 The drawings included with this specification indicate the general arrangement of the cathodic protection system. If the contractor desires to make changes to the CP system installation as shown on these drawings, then the changes shall be submitted to the owner's engineer for approval. This approval process must be done prior to any work being initiated as it relates to any departures from the CP system drawings of this specification.

2 CONTRACTOR CREDENTIALS

2.1 This CP system shall be installed, energized, and evaluated by a firm regularly engaged in the field of cathodic protection of marine seawall bulkheads and possess an accepted history in the installation of these kinds of marine installations. At all times during construction, the contractor shall maintain a qualified supervisor to direct the construction activity and interface with the City of Mobile's representative, as required.

2.2 The company that is awarded the contract to install the waterside CP system at Mobile Cruise Terminal must have at least ten (10) years of experience in the design and installation of CP systems on marine seawall bulkheads.

2.3 The supervisor for this job must possess the following two (2) AMPP (NACE) accreditations: 1) Corrosion Specialist-G and 2) Cathodic Protection Specialist, or possess the AMPP (NACE) Accreditation of CP4. The firm who is awarded this project will provide all labor, materials, and supervision for the installation of the waterside CP system at Mobile

Cruise Terminal. The supervisor must be on job site at all times while all construction/installation work is being performed.

2.4 The supervisor must have five (5) years of experience in installing and servicing CP systems for marine seawall bulkheads. This is to be evidence by the successful completion of five marine seawall bulkhead projects.

2.5 The firm that is awarded this contract must possess an Alabama State Contractors license at the time of bidding this project.

2.6 Evidence of the company's work experience/history in the field of marine (seawall) CP systems, the Supervisor's AMPP (NACE) accreditations, and his work experience/ history, to include a copy of the firm's Alabama Contractors License must be submitted with the bid for this project, otherwise the bid will not be considered as a valid response to the solicitation.

3 STANDARD PRODUCTS

3.1 Unless otherwise indicated in writing by the owner's engineer, materials under these specifications shall be considered standard products from manufacturers regularly engaged in the production of cathodic protection equipment and materials and of the manufacturer's latest approved standard design.

3.2 Where brand names and/or numbers are specified, it is understood that "or equal" shall apply. The brand names have been used only to describe the standard of quality, performance, and characteristics desired. However, if bidding an "equivalent to the brand specified, it is mandatory that the bidder furnish with his bid, detailed literature cutsheets, and/or specifications to be used in evaluation of products. Failure to submit said information on any substitutions the bidder wishes to make will be cause for his bid not to be considered. Substitutions will not be allowed after the bid has been awarded.

4 MATERIAL SUBMITTALS

4.1 Contractor shall submit to owner for approval, a complete list of material and equipment. The list shall include catalog numbers, cuts, diagrams, drawings, and other descriptive date required by the owner. No consideration will be given to partial lists and if not submitted may result in the cancelation of the contractor's purchase order:

Anode – Linear Distributed Anode System
Positive Header Cables
Surface Cable Routing Junction Box Frame and Cover Rectifier
Negative Structure Header Cables
Electrical Conduit

SECTION 2- PRODUCTS

1 RECTIFIERS

1.1 The landside rectifier shall be manufactured by Universal Rectifiers Model No. OSOI-100-200 CBCKRWZ.

- OSOI = Oil Cooled, Non-Hazardous area, Manual link bar control, Silicon stack
- DC rating: 100 Volts – 200 Amps

- C = 230/460 VAC, 3 Phase, 60 Hertz input
- B = Set to run on 460 VAC
- C = AC & DC lightning arrestors
- K = DC Failure Light
- R = 115 VAC convenience outlet on the front panel
- W= Terminal block for remote Monitor, terminals to include DC Volts=/-. Amps =/-, 15 VDC
- Z=Hybrid bridge stack with 3ph 12-volt relay for remote interruption (Apply 12 VDC to interrupt)
- Z = Binding Posts for Interrupt
- Z = One Positive Terminal for #2/0 cable
- Z = Two Negative Terminals for #1/0 cable with a shunt on each of the negative terminals
- Z - One 2" DC knockout and one 1" AC knockout
- Z – 12" Stand for Cabinet
- Type GO case, Hot Dip galvanized, approx. 1600 pounds
- 600 Gallons of transformer oil required

1.2 APPLICABLE STANDARDS

1.2.1 EMA Publication No. MR 20-1958, reaffirmed by NEMA 1971-Semiconductor Rectifiers, Cathodic Protection Units.

1.2.2 NEMA Standard Publication No. 250-1979, including Rev. No. 1 – December 1980, Enclosures for Electrical Equipment (1000 Volts maximum)

1.3 GENERAL

1.3.1 The AC input of the rectifiers shall be 115, 230 or 460 VAC – single or three phase – 60 Cycle.

1.4 ENCLOSURE

1.4.1 The rectifier case shall be NEMA 4X, completely weatherproof for outdoor use. The case shall be constructed of not less than eleven-gauge steel. All fabrication welds shall be clean and smooth. The entire case shall be hot dip galvanized per ASTM-123.

1.4.2 The cabinet is to be equipped with an instrument compartment welded to one end of the case prior to galvanizing. This compartment shall house the circuit breaker, output meters and the output terminals and shall have a hinged door and lockable stainless-steel latch.

1.4.3 The lid on the oil chamber shall be hinged on one side and have a minimum of four stainless steel latches to provide a moisture proof seal. The gasket on the lid shall be an oil resistant neoprene sponge.

1.4.4 On rectifiers 500 watts and above, the transformer and stack shall be mounted on separate removable racks in the oil chamber.

1.4.5 The internal horizontal panel on which the voltage adjustment taps, AC input terminals and D.C. terminals are mounted shall be at least four inches below the recommended oil level as marked within the oil chamber.

1.4.6 All connecting wires from oil chamber to the instrument compartment shall be sealed with an oil resistant compound. These wires shall have a ½" gap in the insulation above oil level to prevent siphoning.

1.4.7 A grounding lug to accommodate a #6 wire shall be provide on the outside of the cabinet.

1.5 TRANSFORMER

1.5.1 The transformer shall be specifically designed for use in a cathodic protection rectifier, having separate primary and secondary copper windings. Wire size on both windings is to be based on a minimum of 1,000 circular mils per ampere. The material used in the core of the transformers shall be of such quality that core losses do not exceed 0.62 watts per pound. The amount of core material shall be no less than the amount given by the following formula:

AC = The square root of the watts in the primary divided by 5.58

1.5.2 AC = The minimum area of core in square inches. The core area is figured as the cross-sectional area of that portion of the core which passes through the coil.

1.5.3 The transformer shall be immersed in class F transformer varnish until all taps, insulating materials, outer wrapping and coil windings have been completely saturated. The transformer will then be oven baked until completely dry.

1.5.4 When a three-phase rectifier is specified, it shall be provided with a three-phase transformer with three separate wound legs or three separate transformers.

1.5.5 The secondary shall have a sufficient number of coarse and fine taps to provide a minimum of 18 equal step of adjustment. These taps shall be brought out to link bar arrangement for adjusting the output of the rectifier.

1.5.6 The link bars shall be terminated on at least a 5/16" stud lug that has one end drilled out so that the transformer tap wire can be soldered to the back of the stud.

1.5.7 Quick change plastic knobs with brass inserts shall be used to connect the link bars to the studs.

1.6 RECTIFYING ELEMENTS

1.6.1 The rectifier stack shall consist of high current density selenium cell arranged to give full wave rectification. Ratings shall be within the manufacturer's recommended current rating for continuous operation with a 50 degrees C ambient temperature.

1.6.2 The RMS voltage rating of the rectifier stack shall be sufficient to withstand, without damage, the full output of the transformer secondary when the load is disconnected from the D. C. terminals, i.e.., under open circuit conditions.

1.6.3 When silicon is used as the rectifying element, current rating for continuous operation shall be for 50 degrees C. ambient and the PRV rating of the diodes shall be at least 1200 PIV. The diodes shall be protected against high voltage surges with selenium surge suppressors.

1.6.4 Current and voltage shall be de-rated for higher ambient temperature, where required, and in accordance with the manufacturer's recommendations.

1.7 PROTECTIVE DEVICES

1.7.1 The entire unit is to be protected against overload and short circuit with a fully magnetic circuit breaker of proper rating connected between the A.C. supply and transformer primary.

1.7.2 Circuit breakers shall have two poles for single phase units and three poles for three phase units. In the case of 100 amps or less silicon rectifiers, single pole, fully magnetic circuit breakers shall be inserted in one leg of the A.C. secondary of single-phase units and in at least two of the secondary legs of a three-phase unit.

1.7.2.1 All units above 100 amps shall be bolt in style fuses and shall not rely on pressure type fuse holders.

1.8 DC METERS

1.8.1 One D.C. voltmeter and one D.C. ammeter shall be provided. Each will have an accuracy of 2% full scale. Hoyt # 17/3 meters or approved equal shall have minimum scale lengths of 1 5/8".

1.8.2 The ammeter shall be connected to an external shunt with and accuracy of at least 1%.

1.8.3 The shunt shall be plainly marked to show ampere rating and millivolt drop. This shunt is to be mounted on the front panel of the rectifier so as to be readily accessible for meter accuracy checks.

1.9 DC TERMINALS

1.9.1 Solderless lugs rated for full rectifier output current shall be provided for the positive and negative output terminals of the rectifier and shall be mounted on an insulated panel.

1.9.2 Output terminals shall be clearly identified on the panel as "Positive" and "Negative".

1.10 WIRING AND CONDUCTORS

1.10.1 All wiring within the rectifier, except the meter circuits, shall be of the high temperature motor lead wire with a minimum of 105 degrees C rating. Wire size shall be based on not less than 500 circular mils per ampere.

1.10.2 All current carrying bolts, terminals and connections made through the panel shall be either soldered to the bolt head or made by use of double nut method, so as not to depend on the compression strength of the panel to maintain a tight connection.

1.10.3 Tap changing studs and output lugs shall be a minimum of 5/16" diameter.

1.11 RECTIFIER DATA

1.11.1 Each rectifier shall be provided with an engraved metal nameplate with the following information.

1. Name of manufacturer
2. AC input voltage
3. AC input amperes
4. AC frequency
5. Phase
6. DC output volts
7. DC output amperes
8. Ambient temperature in degrees C.

1.11.2 In addition to this a waterproof envelope, placed in a suitable holder in the rectifier door, shall contain a complete wiring diagram, operating and maintenance manual and a copy of the test data obtained on the final bench check out of the rectifier.

1.12 INSTRUMENT PANEL

1.12.1 Phenolic grade XXX, non-conductive, moisture resistant, specifically designed for panel board use.

2 AC POWER

2.1 AC Power to be supplied by the City of Mobile. The AC Power supplied will terminate in an AC Disconnect Box within ten-feet (10') of the rectifier. Please refer to Section 1, paragraph 1.7.

3 REMOTE RECTIFIER MONITORING

3.1 The rectifier, if required by the owner, is to have an American Innovation Satellite Rectifier Remote Monitor Unit Model No. RM4014S with Surge Arrester connected to the rectifier. At the time of the preparation of this specification, the owner has not made a decision as to whether this will be a requirement of the project or not.

4 LINEAR ANODES

4.1 GENERAL DESCRIPTION

4.1.1 The landside anode shall be CerAnode PiggyBack MMO Linear Anode Model No. PBL-CS-559FT-STI-125H-20FT-583FT-1/0AWG-KYNAR-CXFH-559ft.. Active Length, CXFH connection, 20ft. Lead and 579ft. Tail plus 4ft. for 2 ft. loop back, using 1/0 AWG Kynar20/HMWPR65 Cable rated at 400mAsqft for 20 years.

4.1.2 The linear anode assembly shall be pre-assembled at Ceranode and placed on a 48" wooden installation reel.

4.1.3 There will be 20ft lead and 610ft tail + 4ft for 2ft loop back, "Fold in Half", using 1/0 AWG Kynar20/HMWPE65 Cable

4.1.4 Please refer to the drawing included with this specification for installation details of the installed linear anode assembly.

4.1.5 The anode must be assembled with Loresco SC3 carbon backfill in a natural cotton fiber sock as provided by Ceranode. There can be no substitutions on this specification.

4.2 CURRENT DENSITY AND ANODE LIFE

4.2.1 The linear anode shall be rated at 400 ma per linear foot for an estimated life of 20 years in soil. This application in soil will allow for a discharge rate of 236 amps for 20 years. At a discharge rate of 157 amps, the estimated life for this linear anode is 30 years.

4.2.2 This rating is good down to soil resistivity of 1300 ohm-cm.

4.3 LINEAR ANODE-TO-CABLE CONNECTION

4.3.1 The anode-to-cable connection shall be made at the center of each anode and have an electrical resistance of less than 0.001 ohm.

4.4 LINEAR ANODE QUALITY ASSURANCE

4.4.1 The linear anode assembly as assembled by CerAnode renders a 7-year factory warranty, when the linear anode is installed and operated as per the warranty specifications. This warranty is from Ceranode and not from the contractor.

4.5 LINEAR ANODE HEADER CABLE

4.5.1 From the end of the Linear Anode back to the rectifier, 2/0 AWG HMWPE cable with “RED INSULATION” is to be used.

4.6 LINEAR ANODE HEADER CABLE SPLICE

4.6.1 The linear anode is to be spliced to the rectifier’s positive header cable using the Burndy “C” Crimp System. The “C” crimp to be used is Burndy Model No. YC26C26.

4.6.2 The splice kit to be used to encapsulate the splice of the linear anode cable to the rectifier’s positive header cable is to be Royston’s “Splice Right” splice kit.

5 RECTIFIER-TO-STRUCTURE (NEGATIVE) CABLE

5.1 Two (2) #1/0 AWG HMWPE cables will be welded to the front (water side) of the seawall via a Steel Structure Connection Plate. The location of these two plates is at the 750-foot location and 1050-foot location as measured from the southeast corner of the seawall of the Mobile Cruise Line Terminal. These negative cable connection plates will be welded to the seawall about five feet from the seafloor bottom. The plate and weld area to the seawall are to be coated liberally with underwater Alocit 26.15 Underwater Epoxy coating. These two cables will be routed along the face of the seawall on the bottom. When these two cables reach the area where the Surface Cable Routing Box is located, which is near the 350-foot location as measured from the southeast corner of this seawall; they be routed vertically to this Surface Cable Routing Box and then on to their appropriate landside rectifier. These cables along with the other cables installed along the face of the seawall are to be overlaid with Rip Rap Burlap Concrete Bags. All these cables are then routed to the top of the dock at this location via 2” PVC schedule 80 conduits. This makes a total of four negative cables that will be routed back to their respective rectifier for the CP systems associated with the

Mobile Maritime Museum's seawall. Two (2) negative cables for the two (2) waterside rectifiers, and two (2) negative cables for the one (1) landside rectifier. The two landside negative cables are to be terminated in its appropriate rectifier cabinet.

5.2 CABLE-TO-STRUCTURE CONNECTION

5.2.1 The rectifier's negative cathodic protection cable shall be thermite welded to the structure steel connection plate which measures 6" by 6" by ¼" thick. The steel connection plate is then welded to the seawall with the double pass welding procedure. The entire plate and cable thermite weld area is to be liberally coated with Alocit 28.15 Underwater Epoxy coating.

5.3 THERMITE WELD COATING

5.3.1 Thermite welds shall be protected and coated with Alocit 28.15 Underwater Epoxy coating.

5.4 D.C. ELECTRICAL CONDUIT

5.4.1 D.C. electrical conduit and fittings shall be schedule 80 conduit grade PVC, conforming to all codes and ordinances. All 90 degree and 45-degree ells shall be the "sweep" style elbows.

5.5 SURFACE CABLE ROUTING JUNCTION BOXES

5.5.1 For the Maritime Museum's "Landside" CP system, there will not be any additional Surface Cable Routing Junction Boxes. The junction boxes needed and used by this specification have already been covered in other specifications for this project.

SECTION 3- EXECUTION AND INSTALLATION

1 LANDSIDE CATHODIC PROTECTION SYSTEM

1.1 The linear landside anode consists of one pre-assembled linear anode with an approximate active length of 590-feet long which uses the 400 mA MMO wire anode material.

1.2 The linear anode system is to be directional bored to an installed depth of twenty-feet (20'). The directional bore will be done from the head pit located in the parking lot of the Maritime Museum. The bore is from the head pit to the north. Refer to Drawing included with this specification for specific details.

1.3 The linear anode landside positive header cable is to be 2/0 AWG HMWPE with RED insulation and is routed back to its rectifier via Surface Cable Routing Junction Boxes. The boxes are to be manufactured by EJ USA, Inc. They are "airport rated" and are Model No. 8083 Junction Box Frame and Cover.

1.4 A second directional bore will be made from this head pit down to a new tail pit that is located next to the northeast leg of the rectifier elevated platform. The general direction of this bore is to the southeast. The bore will result in two each 2/0 HMWPE "RED INSULATED" cables being pulled back to the linear anode head pit. One cable is spliced to the Mobile Cruise Terminal's linear anode assembly, and the other cable will be spliced to the Mobile Maritime Museum's linear anode assembly.

2 EXCAVATION, TRENCHING, AND BACKFILLING

2.1 Provide shoring and/or sheeting where excavation or field conditions do not allow adequate slope for banks.

2.2 Trenching excavation for cable installation in conduit shall be made as narrow as practical, but width should allow proper compaction. Trenches shall not be widened by scraping or loosening materials from the side. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

2.3 Depth of Trench. Trenches shall be excavated to a depth that will allow the cable conduit to be laid at a minimum depth of twenty-four inches (24”).

2.4 Backfilling shall be accomplished in such a manner that no damage is done to the conduit and/or the cable insulation.

2.5 Compaction of backfill shall be to 95% per ASTM D1557 (modified proctor). In soft, weak or wet soils, tamp backfill to consolidate and densify the material.

2.6 Reconditioning of Surfaces: Surfaces disturbed during the excavation for conduit runs shall be of the same kind as what was removed during excavations.

3 RECTIFIER UNITS

3.1 Actual rectifier DC output voltage required shall be determined by actual anode(s) to seawall bulkhead resistance. This resistance value is to be measured by using a temporary DC power source and powering up the installed linear anode system. Then and only then can the rectifier’s voltage capability be ascertained. Hence, the rectifier shall not be ordered until CP circuit resistance has been measured.

3.2 The rectifier specified in the Bill of Materials was based on data collected from the field (soil resistivity). It is felt that the calculated circuit resistance of this rectifier will be very close to what will be actually purchased after the actual circuit resistance is determined. Unless there is a significant difference between the calculated circuit resistance and the actual circuit resistance, then a price change will not be allowed for the rectifier. A ”significant difference” is defined as a circuit resistance difference of more than 20%. If a price change is requested on this item, then the contractor shall submit a copy of the original quoted cost from the manufacturer and a copy of the quote for the rectifier based on the actual circuit resistance of the CP system. The amount of the price change allowed will be limited to the rectifier’s cost difference with a 20% profit margin applied to the cost difference (Cost Difference X 1.20 = Allowed Price Change).

3.3 The rectifier and related equipment shall comply with local and national electric codes. The AC power disconnect for the rectifier units shall be furnished and connected by owner. The connection from the AC Power disconnect to the rectifier shall be provided by the contractor.

4 ENERGIZING AND TESTING

4.1 AMPP (NACE) Criteria The achievement of cathodic protection is to be based on acceptable AMPP (NACE) criteria. The AMPP (NACE) criterion that is to be used for the seawall bulkhead is SP0169-2013 and it states under section 6.2.1.2: *"A minimum of 100 mv of cathodic polarization. Either the formation or decay of polarization must be measured to satisfy this criterion.* There is an alternative criterion stated under section 6.2.1.3 which states: *"A structure-to-electrolyte potential of -850 mv or more negative as measured with respect to a saturated copper/copper sulfate (CSE) reference electrode. This potential may be either a direct measurement of the polarized potential or a current-applied potential. Interpretation of a current-applied measurement requires consideration of the significance of voltage drops in the earth and metallic parts."*

4.2 Since this project involves seawater, a silver-silver chloride (AGCL) reference cell will be used. The threshold potential of -850 mV using a CSE reference cell is equal to the potential of -800 mV when an AGCL reference cell is used.

4.3 To properly consider voltage drops in the CP system, a complete set of native potential readings are to be taken and recorded. After the system, has been energized and adjusted an "instant on/off" survey is to be conducted on the structure.

4.4 Upon completion of the installation of the landside CP system, the system shall be energized, tested and adjusted for proper operation. When the seawall bulkhead has been under cathodic protection for at least 30 days, an "instant on/off" survey is to be conducted. "Instant off" structure potentials from minus -800 mV to minus -1150 mV as measured with a silver-silver chloride reference electrode, shall be considered acceptable.

4.5 After the initial survey, it highly recommended that an annual survey be conducted every year to insure effective cathodic protection is being maintained.

4.6 Report: Upon completion of the post installation survey, a written report shall be submitted that will include the following:

Rectifier data sheets to include the final setting and DC output.
Operation and maintenance instructions
Potential data - *native*
Potential data – *polarized*

5 VENDOR RESOURCES

5.1 Stainless Steel Brackets

5.1.1 Gulf States Hangers and Supports: 7100 Bellingrath Road, Theodore, AL 36582 (251-653-6228)

5.2 Linear Anode

5.2.1 Ceranode Technologies International: Greg Smith; 4011 Riverside Dr., Dayton Ohio 45405 (937-278-6547

5.3 Underwater Diving

5.3.1 Commercial Diving Services: Doug Christopher; 4376 Dawes Lane East; Mobile, AL 36619 (251-665-0017)

5.4 Universal Rectifiers

5.4.1 Universal Rectifiers: Mike Hill; P.O. Box 1640, Rosenberg, TX 77471 (281-342-8471)

6 ERRORS AND OMISSIONS

6.1 DISCLAIMER

6.1.1 It is the contractor's responsibility to verify quantities, part numbers, and viability of all materials specified in this specification, as there may be errors and omissions.

6.1.2 It is also the contractor's responsibility to verify the design of the cathodic protection system as to its ability to achieve cathodic protection on the structures covered by this specification.

6.1.3 It is the responsibility of the contractor to achieve cathodic protection on all structures covered by the contract.

6.2 PHYSICAL CHANGES

6.2.1 The contractor may at his discretion move the linear anode and related cable runs to locations that are different from the locations shown on the installation drawings. These locations changes can be associated with underground and/or unknown obstacles that are encountered during installation. These changes are to be noted and communicated to the City's engineer on the project, as well as being shown on the contractor's "as-built" drawings.

6.3 PRICE CHANGES

6.3.1 The successful contractor for this project must hold his bided price firm for 60 days from the bid date for this offering. Price changes will be allowed if and only if there is a significant price increase for an item from a manufacturer that occurs either during and/or after 60 days has elapsed from the bid date and the contract awarded date. A "significant price" increase is one that amounts to more than a 10% increase in an item's **cost** from a manufacturer. Integral to the approval for a price increase must be evidenced by the original manufacture's quoted price document to the contractor; and the manufacturer's revised, dated document to the contractor, which shows the increased price to the contractor. The amount of the price change allowed will limited to the item's cost difference with a 20% profit margin applied to the cost difference (Cost Difference X 1.20 = Allowed Price Change).

7 WARRANTY

7.1 LIMITED WARRANTY: This limited Warranty covers the installation and the equipment associated with the Cathodic Protection System (the "Product") supplied by the contractor ("installer") for this project.

7.2 LIMITED ONE YEAR WARRANTY: Subject to the limitations set forth below, Installer warrants to the purchaser ("Buyer") that the Product will be free from defects or failure caused by improper installation for a period of one (1) year from the Date of Installation ("the Warranty Period"). The Date of Installation shall be the date listed on the Purchase Invoice provided to Buyer by Installer.

TECHNICAL SPECIFICATIONS

IMPRESSED CURRENT WATERSIDE CP SYSTEM

September 30, 2022

CITY OF MOBILE ALABAMA

MOBILE CRUISE TERMINAL

Table of Contents

SECTION 1- GENERAL

1 SEAWALL DESCRIPTION

1.1 The Mobile Cruise Terminal Seawall does not have a Cathodic Protection (CP) system on its seawall. This specification outlines the proposed impressed current CP system for this seawall. The seawall is approximately 600 linear feet in length and is constructed with AZ-26 Z-plate.

1.2 The seawall structure is "L" shaped with 600 feet in the main seawall that runs North and South and a short leg on the south corner of the seawall that runs West from that corner approximately 35 feet. Please refer to the Drawing Set included with this specification for more detail.

1.3 The seawall Z-plate is 60 feet in length. The water depth is approximately 28 to 30 feet.

1.4 The Mobile River flows by the seawall water and empties into Mobile Bay. The water is considered to be brackish water. The water resistivity at High Tide is 1486 ohm-cm; and at Low tide, it is 1333 ohm-cm. All design calculations were made using the High Tide resistivity of 1486 ohm-cm.

2 CP SYSTEM MAJOR COMPONENTS

2.1 The new impressed current CP system will utilize 44 Anotec High Silicon Iron Anodes – Model No. 4884LZ. Their installation locations will be specified later in this specification.

2.2 There will be two (2) Alco Rectifiers – Model No. OSOI 70-170 CBCKRWZ which will power the Anotec Anodes. Each rectifier will drive twenty-two (22) anodes making a total of forty-four (44) anodes for the protection of the Mobile Cruise Line Terminal seawall. The rectifiers will be powered with 460/3/60 AC power.

2.3 The Anotec Anodes will have varying lengths of AWG #6 copper stranded PVDF/HMWPE cable attached to them. The length of the cable will be dependent on the distance from the junction box to which they are to be terminated. These anode cable leads will be terminated in an Anode Shunt Junction Box. There are two (2) Anode Shunt Junction Boxes for this CP system, with each shunt box being able to accommodate twenty-two (22) anodes each.

2.4 There will be one (1) positive AWG #2/0 copper stranded HMWPE cable with RED insulation from each Anode Shunt Junction Box to its appropriate rectifier. This 2/0 cable is to be rated at 195 amps.

2.5 The minimum life expectancy design constraint of 15 years will apply to all CP components in this CP system.

2.6 There will be one (1) positive AWG #2/0 copper stranded HMWPE cable with RED insulation from each Anode Shunt Junction Box to its appropriate rectifier. This 2/0 cable is to be rated at 195 amps.

2.7 All CP component locations are shown in the drawing section of this specification.

3 SCOPE

3.1 The work consists of furnishing all labor, equipment, and materials, including performing all operations necessary to complete the following:

3.1.1 Install two (2) new cathodic protection rectifiers on the elevated platform located at the northeast corner of the Cruise Line Terminal's Building. Please refer to the drawing section of this specification for more details. The new rectifier is an Alco Model No. OSOI 70-170 CBCKRWZ.

3.1.1.1 Install 300 gallons of Tulstar Transformer Oil Type II OT-3216 into each rectifier.

3.1.2 Others will supply a 460/3/60 - 20 amp Disconnect Box within 10 feet of the installed rectifier.

3.1.2.1 The successful contractor for this project will connect the 460/3/60 AC power supply from the provided disconnect to the rectifier.

3.1.3 Install forty-four (44) new Anotec Model No. 4884LZ High Silicon Iron Anodes along the face of the seawall. They are to be space evenly along the face of the Seawall Bulkhead on fifteen-foot (15') intervals and at an approximate distance of twenty-five feet (25') from the face of the seawall. They are to be water jetted into the seafloor at these locations to a depth of ten-feet (10') as measured from the bottom of the anode to the top of the seafloor bottom.

3.1.4 The rectifier for this system will have one (1) AWG #2/0 copper stranded HMWPE positive header cable with RED insulation. The rectifier is outfitted with one (1) positive lug to which the one (1) positive header cable will be connected. The other end of the positive header cables will be routed to its appropriate Anode Shunt Junction Box.

3.1.5 There will be one (1) AWG #2/0 copper stranded HMWPE negative (seawall) header cable for this rectifier. The rectifier is outfitted with one (1) negative terminal lug to which this cable will be terminated. The other end of this cable will be attached to the seawall. Please see the drawing relating to this in the drawing section of this specification. The negative cable will be thermite welded or pin brazed to a steel plate measuring 6" x 6" x ¼" thick. After the cable has been thermite welded to the steel plate, it is to be liberally coated with Alocit 28.15 Underwater Epoxy. The steel plate is then welded to the seawall with a double pass weld method. The newly welded steel plate and the new welds are to be recoated with Alocit 28.15 Underwater Epoxy.

3.1.6 The routing of the rectifier positive and negative header cables will involve cutting the concrete deck of the dock and exposing the dirt beneath the concrete. Once the dirt has been exposed, dirt is to be excavated to a depth of 24", which forms a cable trench. All cables are to installed in 2" electrical grade PVC conduit. Once all cable and conduit has been assembled in the trench, the trench is to be backfilled to a depth of 12" from the top of the concrete deck. "CAUTION CP CABLE BURIED BELOW" tape is to be installed at this depth. The trench is then backfilled to the bottom of the existing concrete deck and properly compacted to 95% compaction per ASTM D 1557 (modified proctor) so that they are no voids or sinking. The cut in the concrete deck is then to be filled with new 3000 psi or better concrete.

3.1.7 Install the two (2) Anode Shunt Junction Boxes in the locations shown on the drawing for this Seawall's CP system. Please note that the Anode Shunt Junction Boxes are to have barricade protection against vehicle damage. Please refer to the drawings covering this issue in the Drawing Section of this specification. The seawall for the Mobile Cruise Line Terminal is approximately 600 feet in length. This equates two rectifier zones that measure about 300 feet in length. The midpoint of these two zones respectively is at the 150-foot position and the 450-foot position. The Anode Shunt Junction Boxes are to be mounted to galvanized 4" I-beam with a 12-inch by 12-inch by ½-inch base plate. These pedestals are to be provided by the successful contractor for this project. These pedestals will be anchored to the concrete deck of the dock at these two locations. Please refer to the drawing for more details. All cables entering and leaving the Anode Shunt Junction Boxes are to be routed in electrical grade PVC conduit. There are to be NO underwater splices for either anode lead wire cables, negative header cables, and/or positive header cables.

3.1.8 Install two (2) test station test leads in each of the new two (2) new Anode Shunt Junction Boxes. The two AWG #10 copper stranded HMWPE Test Leads are to be labeled in the Junction Box as being "Structure Test Leads".

3.2 The seawall is to be made electrically continuous by welding each z-plate joint along the entire length of the seawall. This is to be done approximately three-feet (3)' just below the water's surface. First, the weld area is to be water blasted to remove all foreign materials from the weld area. Next, a double pass four-inch (4") weld is to be welded to each z-plate joint. After welding, then the entire weld area is to be coated with Alocit 28.15 Underwater Epoxy.

3.3 Conduct a native potential survey on the waterside of the Mobile Cruise Terminal's Seawall Bulkhead.

3.4 Energize, adjust, and checkout the cathodic protection system after installation, to ensure that cathodic protection is being achieved on the waterside of the Mobile Cruise Terminal Seawall Bulkhead.

3.5 Measure the current being discharged from each of the new impressed current anodes.

3.6 Conduct an On/Off (Instant-Off) Electrolyte to structure potential survey of the Mobile Cruise Terminal Seawall Bulkhead. A written report is to be issued depicting all data collected to include both native potential and polarized potential survey data.

4 CONTRACTOR CREDENTIALS

4.1 This CP system shall be installed, energized, and evaluated by a firm regularly engaged in the field of cathodic protection of marine seawall bulkheads and possess an accepted history in the installation of these kinds of marine installations. At all times during construction, the contractor shall maintain a qualified supervisor to direct the construction activity and interface with the City of Mobile's representative, as required.

4.2 The company that is awarded the contract to install the waterside CP system at Mobile Cruise Terminal must have at least ten (10) years of experience in the design and installation of CP systems on marine seawall bulkheads.

4.3 The supervisor for this job must possess the following two (2) AMPP (NACE) accreditations: 1) Corrosion Specialist-G and 2) Cathodic Protection Specialist, or possess the AMPP (NACE) Accreditation of CP4. The firm who is awarded this project will provide all labor, materials, and supervision for the installation of the waterside CP system at Mobile Cruise Terminal. The supervisor must be on job site at all times while all construction/installation work is being performed.

4.4 The supervisor must have five (5) years of experience in installing and servicing CP systems for marine seawall bulkheads. This is to be evidence by the successful completion of five marine seawall bulkhead projects.

4.5 The firm that is awarded this contract must possess an Alabama State Contractors license at the time of bidding this project.

4.6 Evidence of the company's work experience/history in the field of marine (seawall) CP systems, the Supervisor's AMPP (NACE) accreditations, and his work experience/ history, to include a copy of the firm's Alabama Contractors License must be submitted with the bid for this project, otherwise the bid will not be considered as a valid response to the solicitation.

5 AC POWER

5.1 The City of Mobile will provide the 460/3/60 20-Amp AC Power Disconnect. The contractor for this project is responsible for connecting the new rectifier to the provided disconnect.

5.2 Easements and permits may be required and are the responsibility of the contractor.

6 STANDARD PRODUCTS

6.1 Unless otherwise indicated in writing by the owner's engineer, materials under these specifications shall be considered standard products from manufacturers regularly engaged in the production of cathodic protection equipment and materials and of the manufacturer's latest approved standard design.

6.2 Where brand names and/or numbers are specified, it is understood that "or equal" shall apply. The brand names have been used only to describe the standard of quality, performance, and characteristics desired. However, if bidding an "equivalent to the brand specified, it is mandatory that bidder furnish with his bid, detailed literature and/or specifications to can be used in evaluation of substituted products. Failure to submit said information will be cause for the prospective Contractor's bid to be classified as invalid and it will not be considered.

7 MATERIAL SUBMITTALS

7.1 Contractor shall submit to owner for approval, a complete list of materials and equipment required by this specification. The list shall include catalog numbers, cut sheets, diagrams, drawings, and other descriptive data required by the owner. No consideration will be given to partial lists and if not submitted may result in the cancelation of the contractor's purchase order:

7.1.1 Rectifiers

7.1.2 Rectifier Oil

7.1.3 Rectifier Positive and Negative Header Cable

7.1.4 Impressed Current Anodes

7.1.5 Anode Lead Wire Cable
7.1.6 Anode Shunt Junction Boxes
7.1.7 Test Lead Cable
7.1.8 Underwater Coating System

7.2 A list of all subcontractors assigned to the project shall also be included, along with the description of the work they will perform, to include with full addresses, telephone numbers, and contact persons.

SECTION 2- PRODUCTS

1 RECTIFIER

1.1 The waterside rectifiers shall be manufactured by Universal Rectifiers Model No. OSOI 70-170 CBCKRWZ

- OSOI = Oil Cooled, Standard Rectifier, Non-Hazardous location, Manual link bar control, Silicon Stack
- 70 Volt
- 170 Amp
- C = 230/460 VAC, 3 Phase, 60 Hertz input
- B = Set to run on 460 VAC
- C = AC & DC lightning arrestors
- K = DC Failure Light
- R = 115 VAC convenience outlet on the front panel
- W = Terminal Block for Remote Monitor, terminals to include DC Volts +/-, Amps +/-, 115 VAC
- Z = Hybrid bridge stack with 3Ph 12 Volt relay for remote interruption (Apply 12VDC to interrupt)
- Z = Binding Posts for Interrupt
- Z = ONE (1) positive terminal and ONE (1) Negative terminal for #2/0 cable
- Z = TWO 2" DC Knockouts, One 1" AC knockout
- Z = 12" stand for cabinet
- Type EO case, Hot dip galvanized, Approx. 1200 pounds
- 300 Gallons of Rectifier Transformer Oil

1.2 APPLICABLE STANDARDS

1.2.1 NEMA Publication No. MR 20-1958, reaffirmed by NEMA 1971-Semiconductor Rectifiers, Cathodic Protection Units.

1.2.2 NEMA Standard Publication No. 250-1979, including Rev. No. 1 – December 1980, Enclosures for Electrical Equipment (1000 Volts maximum)

1.3 GENERAL

1.3.1 The AC input of the rectifier shall be 460 VAC – three phase – 60 Cycle.

1.4 ENCLOSURE

1.4.1 The rectifier case shall be NEMA 4X, completely weatherproof for outdoor use. The case shall be constructed of not less than eleven-gauge steel. All fabrication welds shall be clean and smooth. The entire case shall be hot dip galvanized per ASTM-123.T

1.4.2 The cabinet is to be equipped with an instrument compartment welded to one end of the case prior to galvanizing. This compartment shall house the circuit breaker, output meters and the output terminals and shall have a hinged door and lockable stainless-steel latch.

1.4.3 The lid on the oil chamber shall be hinged on one side and have a minimum of four stainless steel latches to provide a moisture proof seal. The gasket on the lid shall be an oil resistant neoprene sponge.

1.4.4 On rectifiers five- Hundred (500) watts and above, the transformer and stack shall be mounted on separate removable racks in the oil chamber.

1.4.5 The internal horizontal panel on which the voltage adjustment taps, AC input terminals and D.C. terminals are mounted shall be at least four inches below the recommended oil level as marked within the oil chamber.

1.4.6 All connecting wires from oil chamber to the instrument compartment shall be sealed with an oil resistant compound. These wires shall have a ½" gap in the insulation above oil level to prevent siphoning.

1.5 TRANSFORMER

1.5.1 The transformer shall be specifically designed for use in a cathodic protection rectifier, having separate primary and secondary copper windings. Wire size on both windings is to be based on a minimum of 1,000 circular mils per ampere. The material used in the core of the transformers shall be of such quality that core losses do not exceed 0.62 watts per pound. The amount of core material shall be no less than the amount given by the following formula:
AC = The square root of the watts in the primary divided by 5.58

1.5.2 AC = The minimum area of core in square inches. The core area is figured as the cross-sectional area of that portion of the core which passes through the coil.

1.5.3 The transformer shall be immersed in class F transformer varnish until all taps, insulating materials, outer wrapping and coil windings have been completely saturated. The transformer will then be oven baked until completely dry.

1.5.4 When a three-phase rectifier is specified, it shall be provided with a three-phase transformer with three separate wound legs or three separate transformers.

1.5.5 The secondary shall have a sufficient number of coarse and fine taps to provide a minimum of 18 equal step of adjustment. These taps shall be brought out to link bar arrangement for adjusting the output of the rectifier.

1.5.6 The link bars shall be terminated on at least a 5/16" stud lug that has one end drilled out so that the transformer tap wire can be soldered to the back of the stud.

1.5.7 Quick change plastic knobs with brass inserts shall be used to connect the link bars to the studs.

1.6 RECTIFYING ELEMENTS

1.6.1 The rectifier stack shall consist of high current density selenium cell arranged to give full wave rectification. Ratings shall be within the manufacturer's recommended current rating for continuous operation with a 50 degrees C ambient temperature.

1.6.2 The RMS voltage rating of the rectifier stack shall be sufficient to withstand, without damage, the full output of the transformer secondary when the load is disconnected from the D. C. terminals, i.e., under open circuit conditions.

1.6.3 When silicon is used as the rectifying element, current rating for continuous operation shall be for 50 degrees C. ambient and the PRV rating of the diodes shall be at least 1200 PIV. The diodes shall be protected against high voltage surges with selenium surge suppressors.

1.6.4 Current and voltage shall be de-rated for higher ambient temperature, where required, and in accordance with the manufacturer's recommendations.

1.7 PROTECTIVE DEVICES

1.7.1 The entire unit is to be protected against overload and short circuit with a fully magnetic circuit breaker of proper rating connected between the A.C. supply and transformer primary.

1.7.2 Circuit breakers shall have two poles for single phase units and three poles for three phase units. In the case of 100 amps or less silicon rectifiers, single pole, fully magnetic circuit breakers shall be inserted in one leg of the A.C. secondary of single-phase units and in at least two of the secondary legs of a three-phase unit.

1.7.2.1 All units above 100 amps shall be bolt in style fuses and shall not rely on pressure type fuse holders.

1.8 DC METERS

1.8.1 One D.C. voltmeter and one D.C. ammeter shall be provided. Each will have an accuracy of 2% full scale. Hoyt # 17/3 meters or approved equal shall have minimum scale lengths of 1 5/8".

1.8.2 The ammeter shall be connected to an external shunt with and accuracy of at least 1%.

1.8.3 The shunt shall be plainly marked to show ampere rating and millivolt drop. This shunt is to be mounted on the front panel of the rectifier so as to be readily accessible for meter accuracy checks.

1.9 DC TERMINALS

1.9.1 Solderless lugs rated for full rectifier output current shall be provided for the positive and negative output terminals of the rectifier and shall be mounted on an insulated panel.

1.9.2 Output terminals shall be clearly identified on the panel as “Positive” and “Negative”.

1.10 WIRING AND CONDUCTORS

1.10.1 All wiring within the rectifier, except the meter circuits, shall be of the high temperature motor lead wire with a minimum of 105 degrees C rating. Wire size shall be based on not less than 500 circular mils per ampere.

1.10.2 All current carrying bolts, terminals and connections made through the panel shall be either soldered to the bolt head or made by use of double nut method, so as not to depend on the compression strength of the panel to maintain a tight connection.

1.10.3 Tap changing studs and output lugs shall be a minimum of 5/16” diameter.

1.11 RECTIFIER DATA

1.11.1 Each rectifier shall be provided with an engraved metal nameplate with the following information.

1. Name of manufacturer
2. AC input voltage
3. AC input amperes
4. AC frequency
5. Phase
6. DC output volts
7. DC output amperes
8. Ambient temperature in degrees C.

1.11.2 In addition to this a waterproof envelope, placed in a suitable holder in the rectifier door, shall contain a complete wiring diagram, operating and maintenance manual and a copy of the test data obtained on the final bench check out of the rectifier.

1.12 INSTRUMENT PANEL

1.12.1 Phenolic grade XXX, non-conductive, moisture resistant, specifically designed for panel board use.

2 AC POWER

2.1 An AC Power Disconnect rated at 460/3/60 - 20 amps will be furnished by the city of Mobile. It is to positioned within ten-feet (10’) of the rectifier’s installed location. It shall be the responsibility of the contractor to connect the AC power from the disconnect provided by others to the new rectifier’s control circuitry.

3 REMOTE RECTIFIER MONITORING

3.1 The rectifier, if required by the owner, is to have an American Innovation Satellite Rectifier Remote Monitor Unit Model No. RM4014S with Surge Arrester connected to the rectifier. At the time of the preparation of this specification, the owner has not made a decision as to whether this will be a requirement of the project or not.

4 RECTIFIER OIL

4.1 The Rectifier Oil shall be Tulstar Transformer Oil Type II OT-3216 into the rectifier.

5 RECTIFIER POSITIVE AND NEGATIVE HEADER CABLE

5.1 The rectifier's single Positive Header Cable is to be AWG #2/0 copper stranded HMWPE header cable with RED insulation. The rectifier's single Negative Header Cable is to be AWG #2/0 copper stranded HMWPE header cable.

5.2 Rectifier positive and negative header cables shall be an AWG #2/0 copper stranded HMWPE Cathodic Protection Cable, manufacturer by Kalas MFG. This cable conforms to ASTM specifications B-8 and B-3, latest edition. It also conforms to ASTM D-1248, Type 1, Class C Category 5 Grade E-5 and J-3: and IPECA S61-402, Part 6 paragraph 6.11, 4a. The cable shall be identified by the surface ink printed with "Conductor Size, Kalas MFG, Co., HMWPE CATHODIC PROTECTION CABLE". The positive header cable is to come with RED insulation.

6 IMPRESSED CURRENT ANODES

6.1 The anodes shall be Anotec Model No. 4884-LZ High Silicon Iron Anodes, which have a tubular geometry with the dimensions of 3.2 inches in diameter and 84 inches long. The anodes weigh without cable 123 pounds.

6.2 Anodes shall be chilled cast high silicon iron anodes. The lead wired is to be an AWG #6 copper stranded PVDF/HMWPE insulated CP cable. The lead wire is to be assembled to the anode via an approved Anotec distributor using the Anotec Hydraulic Anchor Seating Machine.

6.3 The connection resistance should no greater than 0.001 ohms between the anode and its lead wire cable.

6.4 Anode Current Density and Life

6.4.1 The anode shall be rated at 6.6 to 8.8 amps for an estimated life of 15 years in seawater.

7 ANODE LEAD WIRE CABLE

7.1 Electrical Data – The cable shall have a DC current rating of 70 amps at 600C, with a copper cross section of AWG #6 copper stranded.

7.2 Insulation Data – The insulation shall have of two (2) insulation layers and be PVDF/HMWPE chlorine resistant insulated cable.

7.3 The inner layer shall be PVDF fluoropolymer with a thickness of 20 mils.

7.4 The outer layer shall be high molecular weight polyethylene with a thickness of 65 mils.

7.5 The cable length for each waterside anode will vary based on its installation location to its respective Anode Shunt Junction Box. Refer to the provided drawing for approximate "anode cable lengths" within each rectifier zone.

7.6 Anode lead wire cable shall be an AWG #6 copper stranded PVDF/HMWPE Cathodic Protection Cable, manufacturer by Kalas MFG. This cable conforms to ASTM specifications B-8 and B-3, latest edition. It also conforms to ASTM D-1248, Type 1, Class C Category 5 Grade E-5 and J-3: and IPECA S61-402, Part 6 paragraph 6.11, 4a. The cable shall be identified by the surface ink printed with "Conductor Size, Kalas MFG, Co., HMWPE CATHODIC PROTECTION CABLE".

8 ANODE SHUNT JUNCTION BOX

8.1 This Anode Shunt Junction Box measures 18" X 16" X 8".

8.2 It has twenty-two (22) circuits with Type SW Shunts rated at 50mV=5 Amps and KA-4C lugs for AWG #6 Cable. Above the Shunt will be engraved "1 mV = .1 Amp".

8.3 It is to have one rectifier positive common Header Lug No. KPA-28 for AWG #2/0 Cable.

8.4 There shall be two isolated terminals for AWG #10 cable with the engraving "STRUCTURE TEST LEADS" above the two lugs.

8.5 All nuts and bolts will be stainless steel.

8.6 The Busbar and terminal lugs will be nickel-plated copper.

9 TEST LEAD CABLE

9.1 Test lead cables are to be AWG #10 copper stranded HMWPE Cable and are terminated in the Anode Shunt Junction Box for each rectifier zone.

9.2 The connection of the two structure test leads to the seawall is to be achieved by thermite welding or pin brazing two AWG #10 copper stranded HMWPE test wire leads to a 6" by 6" by ¼" thick steel plate. Next the steel plate is to be double pass welded to the Mobile Cruise Terminal's seawall bulkhead. The location of where the test lead steel plate is to be welded to the seawall is to be in the general area where each Junction Box is located. The welded steel plate, including the thermite weld areas are then to be coated with Alocit 28.15 Underwater Epoxy Coating. This coating system is an approved underwater coating system for this project. The test leads themselves are to be routed in electrical grade PVC Conduit from the seawall to its Anode Shunt Junction Box. The conduit is to be anchored to the steel Z-plate seawall bulkhead and to the seawall's concrete cap using SS316, two-hole heavy duty conduit clamps. The conduit for the test leads is to extend into the water a minimum of six feet (6'). Distances between conduit clamps cannot exceed three feet (3').

10 QUIKRETE BURLAP RIP-RAP BAGS

10.1 Quikrete Rip Rap Burlap Concrete Bags are to overlaid continuously over the anode cables as they are run to the face of the seawall and then down the face of the seawall back to their appropriate Anode Shunt Junction Box. The part number for these 60-pound bags is1129-61.

10.2 The purpose of these Rip Rap Bags is two-fold. First, they are installed to keep the anode cables fixed on the bottom of the seafloor. Second, they are there to serve as protection against mechanical damage from objects that may fall from above and impact the cables resulting in damage to the cables and their insulation.

11 SHIP BONDING STATION "A"

11.1 The Ship Bonding Station is to be installed at a location near the 450-foot location as measured from South to North at the Mobile Cruise Line Terminal's seawall. The Ship Bonding Station is a 16" x 14" X 6" fiberglass box with one (1) Type SW Shunt rated at 50mV-200A. It includes two (2) KA-28 lugs for 4/0 cable, The left lug will be engraved with "SHIP HULL" and the right lug will be engraved with "SEAWALL".

11.2 It will be mounted to a 4" galvanized I-beam similar to the Anode Shunt Junction Boxes. It will be also protected with four steel barricade posts filled with concrete. Please see the attached drawing for more details. The Ship Bonding Station will have a 4/0 grounding cable terminated in the Ship Bonding Station. The other end of this cable will be thermite welded to a 4" X 4" X 1/2" thick steel plate which has been double passed welded to the seawall at this same location. The weld location is to be about three feet below the surface of the water directly to the z-plate seawall. The entire weld plate is to be liberally coated with Alocit 28.15 Underwater Epoxy coating after being welded to the seawall. The 4/0 cable is routed to the surface and then to the Ship Bonding Station in PVC electrical grade conduit. Inside the Ship Bonding Station will be a 200 Amp Shunt and an additional 4/0 lug. This additional 4/0 lug is being provided for any ship that is moored at the dock to make the ship's hull electrically continuous with the seawall. Since the seawall will be under cathodic protection, it is most important that all steps be taken to insure the avoidance of interference corrosion on the ship's hull. It is to be understood that it is the ship's responsibility to provide their own ship's hull connection cable. The additional 4/0 lug is provided for this connection. Once connected the shunt in the Ship Bonding Station can be used to measure any DC current being shared between the seawall and the ship's hull, along with the direction of current flow.

SECTION 3- EXECUTION AND INSTALLATION

1 RECTIFIER

1.1 The installation of the rectifier and related equipment shall comply with local, state, and national electric codes.

1.2 For the Mobile Cruise Line Terminal's waterside CP system, there is to be two (2) rectifiers installed on the elevated platform located on the northeast corner of the Mobile Cruise Line Terminal Building.

1.3 Actual rectifier DC output voltage required shall be determined by actual anode(s) to seawall bulkhead resistance. This resistance value is to be measured by using a temporary DC power source and powering up the installed linear anode system. Then and only then can the rectifier's voltage capability be ascertained. Hence, the rectifier shall not be ordered until CP circuit resistance has been measured.

1.4 The rectifier specified in the Bill of Materials was based on data collected from the field (water resistivity). It is felt that the calculated circuit resistance of this rectifier will be very close to what will be actually purchased after the actual circuit resistance is determined. Unless there is a significant difference between the calculated circuit resistance and the actual circuit resistance, then a price change will not be allowed for the rectifier. A "significant difference" is defined as a circuit resistance difference of more than 10%. If a price change is requested on this item, then the contractor shall submit a copy of the original quoted cost

from the manufacturer and a copy of the quote for the rectifier based on the actual circuit resistance of the CP system. The amount of the price change allowed will be limited to the rectifier's cost difference with a 20% profit margin applied to the cost difference (Cost Difference X 1.20 = Allowed Price Change).

1.5 The installation of the positive and negative cables for this rectifier will require cutting concrete curbs, concrete decks and/or sidewalks.

1.6 The contractor will be responsible for replacing all concrete that he disturbs.

1.7 Rectifier negative structure cables are to be thermite welded to a 6" X 6" X ¼" steel plate. This steel plate will then be welded to the waterside of the Mobile Cruise Terminal Seawall Bulkhead using the double pass welding technique. This steel plate assembly is then to be completely and liberally coated with Alocit 28.15 Underwater Epoxy.

1.8 Rectifier positive anode header cables are to make their transition in the same general location as where each rectifier's negative cables are attached to the seawall. They are to be encased in PVC Electrical Grade Conduit as it is routed from above the water level to below water level. Gulf States Hanger Model No. SS316 Fig. 115 Two- Hole Cable Clamps and/or Special SS316 Fig. 88A Standoff Clamps with 4 conduit mounting places are to be used to anchor the conduit to both the seawall's concrete cap and/or the z-plate of the seawall itself. The distance between conduit clamps cannot exceed three feet (3'). Please refer to drawings provided with this specification for more detail.

1.9 There are to be no underwater splices in rectifier positive or negative header cables.

2 ANODE SHUNT JUNCTION BOX – CABLE

2.1 The Anotec Anode's AWG #6 lead wire cables are to be terminated in the Anode Shunt Junction Boxes. There are to be no splices in these anode cables.

2.2 When the anode cables are brought from underwater to the atmosphere, they are to be routed in 2" Schedule 80 Electrical Grade PVC Conduit. The conduit is to be held in place with Gulf States Hanger and Supports' Fig. No. 115 2" SS316 Two-Hole Conduit Clamps in the area of the seawall bulkhead's concrete cap. The maximum spacing between these clamps is not to exceed three-feet (3') and there must be minimum of two (2) of these clamps installed in the concrete cap area. Below the concrete seawall bulkhead's concrete cap, where the seawall bulkhead's steel z-plate is located, Gulf States Hangers and Supports Fig No. 88A-Special SS316 Offset Conduit Clamps are to be welded to the face of the steel z-plate seawall bulkhead to further support the conduit runs. Please refer to the drawing set provided with this specification as it relates to these "Offset Conduit Clamps. All four (4) of the 2" PVC Conduits that run from the bottom of the Anode Shunt Junction Box are to extend a distance of 6-feet (6') from the seafloor bottom so that these clamps line up with the face of the seawall bulkhead's concrete cap. Since each seawall bulkhead is different, the contractor will be responsible for determining the "offset" distance from the z-plate and the vertical conduit runs so that they all line up with the face of the seawall bulkhead's concrete cap and then into their Anode Shunt Junction Box mounted on and above this area on top of the Terminal's concrete deck. The maximum distance between these "Offset Clamps" cannot exceed three-feet (3') on these conduit runs below the seawall bulkhead's concrete cap.

2.3 The anode lead wire cables are to run directly along the face of the seawall on the seafloor bottom, and then up the face of the seawall to its appropriate Anode Shunt Junction Box. These anode cable runs, to include the "rectifier's positive" cable run, will be overlayed continuously with "Ballast Quikrete Rip-Rap Bags" on the seafloor bottom.

2.4 The installation of cables and related equipment shall comply with all local, state, and national electric codes.

3 ANODE INSTALLATION

3.1 The Anotec Anodes are water jetted into the seafloor bottom as previously described in Paragraph 3-1-3.

3.2 Anode cables are to be routed directly to the face of the seawall. They are then routed along the face of the seawall to the general area of their appropriate Anode Shunt Junction Box. The anode cables are then routed up to their Anode Shunt Junction Box inside of PVC electrical grade conduit.

3.3 Anode cables when laid on the seafloor bottom are to be overlaid continuously with Quikrete Burlap Rip Rap Bags.

3.4 The water depth along face of the Mobile Cruise Terminal Bulkhead Seawall varies. For installation purposes, the contractor can safely use the depth of thirty-feet (30') for their calculations.

3.5 The contractor may at his discretion move anodes and related cable runs to locations that are different from the locations shown on the installation drawings. These locations changes can be associated with underground, underwater, and/or unknown obstacles that are encountered during installation. These changes are to be noted and communicated to the customer's engineer on the project, as well as being shown on the contractor's "as-built" drawings.

4 ANODE SHUNT JUNCTION BOX INSTALLATION

4.1 The Anode Shunt Junction Box is to be installed in the middle of its rectifier zone. As mentioned earlier these Junction Boxes are to mounted to a galvanized 4" I-beam pedestal. All mounting hardware and concrete anchors used in the mounting of the junction box shall be SS316.

4.2 The Anode Shunt Junction Boxes will be mounted on the Cruise Terminal's concrete deck approximately fifteen-feet (15') from the eastern edge of the dock. They are to be located so that they do not interfere ship mooring ropes.

4.3 Each Anode Shunt Junction Box is to be protected by four each six-inch (6") diameter concrete filled Bollard posts. Please refer to the attached drawing included in the drawing package for this specification. This drawing will show the locations where the contractor is to install them.

4.4 There will be four (4) each 2" PVC conduit penetrations into each of the junction boxes. Twenty-two (22) AWG #6 anode lead wires, two (2) AWG #10 test lead wires and one (1) AWG #2/0 rectifier positive cable will enter the junction box via these three penetrations.

4.5 All conduit penetrations into the Anode Shunt Junction Box shall be waterproof penetrations. This means that all PVC Terminal Adapter Fittings are to be PVC glued into the Shunt Box in addition to a SS fender washer and locknut being installed on the Terminal Adapter fitting inside the junction box.

4.6 After the Anode Shunt Junction Box installation is finalized and the anode cables have been terminated in their proper lug on the busbar, to include the termination of the rectifier's positive cable and test lead cables, expanding foam is to be sprayed inside the ID of each conduit penetration for the purpose of blocking water migration into the junction box through the conduit.

5 SURFACE CABLE ROUTING JUNCTION BOXES

5.1 For the Cruise Terminal's "waterside" CP system, there will be nine (9) of these Surface Cable Routing Junction Boxes. The aircraft rated frame and cover is to be EJ USA, Inc.'s Model 8083 Frame and Cover. They are to be used for access the inside of the Surface Cable Routing Boxes, which are constructed using rebar and concrete. The actual concrete construction details for the Surface Cable Routing Junction Boxes to which the EJ Frame and Cover are to be mounted, are show in the drawing package with this specification.

5.2 Two (2) of these boxes are located close to the eastern edge of the Cruise Terminal's deck directly in front of the two(2) Anode Shunt Junction Boxes for this CP system. Please refer to the drawing provided with this specification for more detailed information.

5.3 There are three (3) Surface Cable Routing Junction Boxes located on the eastern edge of the Cruise Terminal's deck directly across from the elevated platforms where the rectifiers are installed. This is the surface junction box where all the rectifier cables for the waterside CP systems will be make their transition from the water to their appropriate rectifier on the elevated platform. There are three (3) more located at the elevated platforms. This for both the Cruise Terminal and the Maritime Museum CP systems. This makes a total of six (6) boxes for these cable transitions. Please refer to the drawing provided with this specification for more detailed information.

5.4 The ninth Surface Cable Routing Box is located directly across from the Ship Bonding Station "A" on the eastern edge of the of the Cruise Terminal's deck. Please refer to the drawing provided with this specification for more detailed information.

5.5 If the need arises, the contractor may make cable splices in the Surface Cable Routing Boxes. These splices are permitted for the purposes of facilitating the arduous task of cable installation. These splices are to use the Burndy Crimping System, using either the Burndy "C" Crimps, or the Burndy "Butt" Crimps. The spliced crimps are then to be sealed with Royston's "Splice Right" splice kits.

SECTION 4- ENERGIZING AND TESTING

1 TESTING

1.1 AMPP (NACE) Criteria: The achievement of cathodic protection is to be based on acceptable AMPP (NACE) criteria. The AMPP (NACE) criterion that is to be used for the seawall bulkhead is SP0169-2013 and it states under section 6.2.1.2: "A minimum of 100 mv of cathodic polarization. Either the formation or decay of polarization must be measured to

satisfy this criterion. There is an alternative criterion stated under section 6.2.1.3 which states: "A structure-to-electrolyte potential of -850 mv or more negative as measured with respect to a saturated copper/copper sulfate (CSE) reference electrode. This potential may be either a direct measurement of the polarized potential or a current-applied potential. Interpretation of a current-applied measurement requires consideration of the significance of voltage drops in the earth and metallic parts."

1.1.1 Since this project involves seawater, a silver-silver chloride (AGCL) reference cell will be used. The threshold potential of -850 mV using a CSE reference cell is equal to the potential of -800 mV when an AGCL reference cell is used.

1.2 To properly consider voltage drops in the CP system, a complete set of native potential readings are to be taken and recorded. After the system has been energized and adjusted, a polarized ("instant on/off") survey is to be conducted on the structure.

1.3 Upon completion of the installation of the waterside CP system, the system shall be energized, tested, and adjusted for proper operation. When the seawall bulkhead has been under cathodic protection for at least 30 days, a polarized ("instant on/off") survey is to be conducted. "Instant off" structure potentials from minus -800 mV to minus -1150 mV as measured with a silver-silver chloride reference electrode, shall be considered acceptable.

1.4 Report

1.4.1 Upon completion of the post installation survey, a written report shall be submitted that will include the following:

1.4.1.1 Rectifier data sheets to include the final setting and DC output.

1.4.1.2 Operation and maintenance instructions

1.4.1.3 Potential data - native

1.4.1.4 Potential data – On and Instant-Off

1.4.1.5 Individual anode current

SECTION 5- ERRORS AND OMISSIONS

1 DISCLAIMER

1.1 It is the contractor's responsibility to verify ***quantities,*** part numbers, and viability of all materials specified in this specification, as there may be errors and omissions.

1.2 It is also the contractor's responsibility to verify the design of the cathodic protection system as to its ability to achieve cathodic protection on the structures covered by this specification.

1.3 Since this contract's purpose is to install a new cathodic protection system, it is the responsibility of the contractor to achieve cathodic protection on the waterside of the Cruise Terminal seawall to the best of their ability. If cathodic protection cannot be achieved under AMPP's (NACE) current criteria, then the contractor should include in his report what recommendations should be employed to ensure that it can be achieved.

SECTION 6- VENDOR RESOURCES

1 Stainless Steel Brackets

1.1 Gulf States Hangers and Supports: 7100 Bellingrath Road, Theodore, AL 36582 (251-653-6228)

2 Underwater Diving

2.1 Commercial Diving Services: Doug Christopher; 4376 Dawes Lane East; Mobile, AL 36619 (251-665-0017)

3 Universal Rectifiers

3.1 Universal Rectifiers: P.O. Box 1640, Rosenberg, TX 77471 (281-342-8471)

4 EJ USA, Inc.

4.1 EJ USA Inc.: 800-626-4653

SECTION 7- WARRANTY

1.1 **LIMITED WARRANTY**: This limited Warranty covers the installation and the equipment associated with the Cathodic Protection System (the "Product") supplied by the contractor ("installer") for this project.

1.2 **LIMITED ONE YEAR WARRANTY**: Subject to the limitations set forth below, Installer warrants to the purchaser ("Buyer") that the Product will be free from defects or failure caused by improper installation for a period of one (1) year from the Date of Installation ("the Warranty Period"). The Date of Installation shall be the date listed on the Purchase Invoice provided to Buyer by Installer.

SECTION 8- DIVING SUBCONTRCTOR

1.1 The Diving Subcontractor on this project shall possess the following:

1.1.1 State Licensed Board for General Contractors certified member and a licensed "General Contractor in the State of Alabama in the field of H/RR-S: Marine Construction

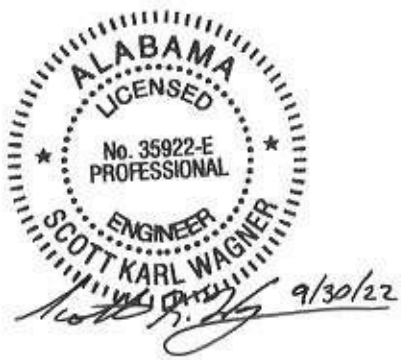
1.1.2 Member in good standing with the Association of Diving Contractors International in the field of "Commercial Diving and Marine Services"

1.1.3 Approved by Alocit-USA as a "Certifier Underwater Coating Applicator". When applied by an Alocit Certified Applicator, the coating has a warranty for 10 years.

1.1.4 Installation of underwater cathodic protection systems as evidenced by a minimum of at least five installations in the past ten years.

TECHNICAL SPECIFICATIONS

IMPRESSED CURRENT WATERSIDE CP SYSTEM



September 30, 2022

CITY OF MOBILE ALABAMA

MOBILE MARITIME MUSEUM

Table of Contents

SECTION 1- GENERAL

1 SEAWALL DESCRIPTION

1.1 The Mobile Maritime Museum seawall does not have a Cathodic Protection (CP) system on its seawall. This specification outlines the proposed impressed current CP system for this seawall. The seawall is approximately 600 linear feet in length and is constructed with AZ-26 Z-plate.

1.2 The seawall Z-plate is 60 feet in length. The water depth is approximately 28 to 30 feet.

1.3 The Mobile River flows by the seawall water and empties into Mobile Bay. The water is considered to be brackish water. The water resistivity at High Tide is 1486 ohm-cm; and at Low tide, it is 1333 ohm-cm. All design calculations were made using the High Tide resistivity of 1486 ohm-cm.

2 CP SYSTEM MAJOR COMPONENTS

2.1 The new impressed current CP system will utilize forty-four (44) Anotec High Silicon Iron Anodes – Model No. 4884LZ. Their installation locations will be specified later in this specification.

2.2 There will be two (2) Alco Rectifiers – Model No. OSOI 70-170 CBCKRWZ which will power the Anotec Anodes. Each rectifier will drive twenty-two (22) anodes making a total of forty-four (44) anodes for the protection of the Mobile Maritime Museum seawall. The rectifiers will be powered with 460/3/60 AC power.

2.3 The Anotec Anodes will have varying lengths of AWG #6 copper stranded PVDF/HMWPE cable attached to them. The length of the cable will be dependent on the distance from the junction box to which they are to be terminated. These anode cable leads will be terminated in an Anode Shunt Junction Box. There are two (2) Anode Shunt Junction Boxes for this CP system, with each shunt box being able to accommodate twenty-two (22) anodes each.

2.4 There will be one (1) positive AWG #2/0 copper stranded HMWPE cable with RED insulation from each Anode Shunt Junction Box to its appropriate rectifier. This 2/0 cable is to be rated at 195 amps.

2.5 The minimum life expectancy design constraint of 15 years will apply to all CP components in this CP system.

2.6 There will be one (1) positive AWG #2/0 copper stranded HMWPE cable with RED insulation from each Anode Shunt Junction Box to its appropriate rectifier. This 2/0 cable is to be rated at 195 amps.

2.7 All CP component locations are shown in the drawing section of this specification.

3 SCOPE

3.1 The work consists of furnishing all labor, equipment, and materials, including performing all operations necessary to complete the following:

3.1.1 Install two (2) new cathodic protection rectifiers on the elevated platform located at the northeast corner of the Cruise Line Terminal's Building. Please refer to the drawing section of this specification for more details. The new rectifier is an Alco Model No. OSOI 70-170 CBCKRWZ.

3.1.1.1 Install 300 gallons of Tulstar Transformer Oil Type II OT-3216 into each rectifier.

3.1.2 Others will supply a 460/3/60 - 20 amp Disconnect Box within 10 feet of the installed rectifier.

3.1.2.1 The successful contractor for this project will connect the 460/3/60 AC power supply from the provided disconnect to the rectifier.

3.1.3 Install forty-four (44) new Anotec Model No. 4884LZ High Silicon Iron Anodes along the face of the seawall. They are to be space evenly along the face of the Seawall Bulkhead on fifteen-foot (15') intervals and at an approximate distance of twenty-five feet (25') from the face of the seawall. They are to be water jetted into the seafloor at these locations to a depth of ten-feet (10') as measured from the bottom of the anode to the top of the seafloor bottom.

3.1.4 The rectifier for this system will have one (1) AWG #2/0 copper stranded HMWPE positive header cable with RED insulation. The rectifier is outfitted with one (1) positive lug to which the one (1) positive header cable with RED insulation will be connected. The other end of the positive header cables with RED insulation will be routed to its appropriate Anode Shunt Junction Box.

3.1.5 There will be one (1) AWG #2/0 copper stranded HMWPE negative (seawall) header cable for this rectifier. The rectifier is outfitted with one (1) negative terminal lug to which this cable will be terminated. The other end of this cable will be attached to the seawall. Please see the drawing relating to this in the drawing section of this specification. The negative cable will be thermite welded or pin brazed to a steel plate measuring 6" x 6" x ¼" thick. After the cable has been thermite welded to the steel plate, it is to be liberally coated with Alocit 28.15 Underwater Epoxy. The steel plate is then welded to the seawall with a double pass weld method. The newly welded steel plate and the new welds are to be recoated with Alocit 28.15 Underwater Epoxy.

3.1.6 The routing of the rectifier positive and negative header cables will involve cutting the concrete deck of the dock and exposing the dirt beneath the concrete. Once the dirt has been exposed, dirt is to be excavated to a depth of 24", which forms a cable trench. All cables are to installed in 2" electrical grade PVC conduit. Once all cable and conduit has been assembled in the trench, the trench is to be backfilled to a depth of 12" from the top of the concrete deck. "CAUTION CP CABLE BURIED BELOW" tape is to be installed at this depth. The trench is then backfilled to the bottom of the existing concrete deck and properly compacted to 95% compaction per ASTM D 1557 (modified proctor) so that they are no voids or sinking. The cut in the concrete deck is then to be filled with new 3000 psi or better concrete

3.1.7 Install the two (2) Anode Shunt Junction Boxes in the locations shown on the drawing for this Seawall's CP system. Please note that the Anode Shunt Junction Boxes are to have barricade protection against vehicle damage. Please refer to the drawings covering this issue in the Drawing Section of this specification. The seawall for the Mobile Maritime Museum is approximately 600 feet in length. This equates two rectifier zones that measure about 300 feet in length. The midpoint of these two zones respectively is at the 150-foot position and the 450-foot position. The Anode Shunt Junction Boxes are to be mounted to galvanized 4" I-beam with a 12-inch by 12-inch by ½-inch base plate. These pedestals are to be provided by the successful contractor for this project. Please refer to the drawings covering this issue in the Drawing Section of this specification. All cables entering and leaving the

Anode Shunt Junction Boxes are to be routed in electrical grade PVC conduit. There are to be NO underwater splices for either anode lead wire cables, negative header cables, and/or positive header cables.

3.1.8 Install two (2) test station test leads in each of the new two (2) new Anode Shunt Junction Boxes. The two AWG #10 copper stranded HMWPE Test Leads are to be labeled in the Junction Box as being "Structure Test Leads".

3.2 The seawall is to be made electrically continuous by welding each z-plate joint along the entire length of the seawall. This is to be done approximately three-feet (3)' just below the water's surface. First, the weld area is to be water blasted to remove all foreign materials from the weld area. Next, a double pass four-inch (4") weld is to be welded to each z-plate joint. After welding, then the entire weld area is to be coated with Alocit 28.15 Underwater Epoxy.

3.3 Conduct a native potential survey on the waterside of the Mobile Maritime Museum's Seawall Bulkhead.

3.4 Energize, adjust, and checkout the cathodic protection system after installation, to ensure that cathodic protection is being achieved on the waterside of the Mobile Maritime Museum Seawall Bulkhead.

3.5 Measure the current being discharged from each of the new impressed current anodes.

3.6 Conduct an On/Off (Instant-Off) Electrolyte to structure potential survey of the Mobile Maritime Museum Seawall Bulkhead. A written report is to be issued depicting all data collected to include both native potential and polarized potential survey data.

4 CONTRACTOR CREDENTIALS

4.1 This CP system shall be installed, energized, and evaluated by a firm regularly engaged in the field of cathodic protection of marine seawall bulkheads and possess an accepted history in the installation of these kinds of marine installations. At all times during construction, the contractor shall maintain a qualified supervisor to direct the construction activity and interface with the City of Mobile's representative, as required.

4.2 The company that is awarded the contract to install the waterside CP system at Mobile Cruise Terminal must have at least ten (10) years of experience in the design and installation of CP systems on marine seawall bulkheads.

4.3 The supervisor for this job must possess the following two (2) AMPP (NACE) accreditations: 1) Corrosion Specialist-G and 2) Cathodic Protection Specialist, or possess the AMPP (NACE) Accreditation of CP4. The firm who is awarded this project will provide all labor, materials, and supervision for the installation of the waterside CP system at Mobile Cruise Terminal. The supervisor must be on job site at all times while all construction/installation work is being performed.

4.4 The supervisor must have five (5) years of experience in installing and servicing CP systems for marine seawall bulkheads. This is to be evidence by the successful completion of five marine seawall bulkhead projects.

4.5 The firm that is awarded this contract must possess an Alabama State Contractors license at the time of bidding this project.

4.6 Evidence of the company's work experience/history in the field of marine (seawall) CP systems, the Supervisor's AMPP (NACE) accreditations, and his work experience/ history, to include a copy of the firm's Alabama Contractors License must be submitted with the bid for this project, otherwise the bid will not be considered as a valid response to the solicitation.

5 AC POWER

5.1 The City of Mobile will provide the 460/3/60 20-Amp AC Power Disconnect. The contractor for this project is responsible for connecting the new rectifier to the provided disconnect.

5.2 Easements and permits may be required and are the responsibility of the contractor.

6 STANDARD PRODUCTS

6.1 Unless otherwise indicated in writing by the owner's engineer, materials under these specifications shall be considered standard products from manufacturers regularly engaged in the production of cathodic protection equipment and materials and of the manufacturer's latest approved standard design.

6.2 Where brand names and/or numbers are specified, it is understood that "or equal" shall apply. The brand names have been used only to describe the standard of quality, performance, and characteristics desired. However, if bidding an "equivalent to the brand specified, it is mandatory that bidder furnish with his bid, detailed literature and/or specifications to can be used in evaluation of substituted products. Failure to submit said information will be cause for the prospective Contractor's bid to be classified as invalid and it will not be considered.

7 MATERIAL SUBMITTALS

7.1 Contractor shall submit to owner for approval, a complete list of materials and equipment required by this specification. The list shall include catalog numbers, cut sheets, diagrams, drawings, and other descriptive data required by the owner. No consideration will be given to partial lists and if not submitted may result in the cancelation of the contractor's purchase order:

- 7.1.1 Rectifiers
- 7.1.2 Rectifier Oil
- 7.1.3 Rectifier Positive and Negative Header Cable
- 7.1.4 Impressed Current Anodes
- 7.1.5 Anode Lead Wire Cable
- 7.1.6 Anode Shunt Junction Boxes
- 7.1.7 Test Lead Cable
- 7.1.8 Underwater Coating System

7.2 A list of all subcontractors assigned to the project shall also be included, along with the description of the work they will perform, to include with full addresses, telephone numbers, and contact persons.

SECTION 2- PRODUCTS

1 RECTIFIER

1.1 The waterside rectifiers shall be manufactured by Universal Rectifiers Model No. OSOI 70-170 CBCKRWZ

- OSOI = Oil Cooled, Standard Rectifier, Non-Hazardous location, Manual link bar control, Silicon Stack
- 70 Volt
- 170 Amp
- C = 230/460 VAC, 3 Phase, 60 Hertz input
- B = Set to run on 460 VAC
- C = AC & DC lightning arrestors
- K = DC Failure Light
- R = 115 VAC convenience outlet on the front panel
- W = Terminal Block for Remote Monitor, terminals to include DC Volts +/-, Amps +/-, 115 VAC
- Z = Hybrid bridge stack with 3Ph 12 Volt relay for remote interruption (Apply 12VDC to interrupt)
- Z = Binding Posts for Interrupt
- Z = ONE (1) positive terminal for 2/0 cable and ONE (1) Negative terminal for #2/0 cable
- Z = TWO 2" DC Knockouts, One 1" AC knockout
- Z = 12" stand for cabinet
- Type EO case, Hot dip galvanized, Approx. 1200 pounds
- 300 Gallons of Rectifier Transformer Oil

1.2 GENERAL

1.2.1 The AC input of the rectifier shall be 460 VAC – three phase – 60 Cycle.

1.3 ENCLOSURE

1.3.1 The rectifier case shall be NEMA 4X, completely weatherproof for outdoor use. The case shall be constructed of not less than eleven-gauge steel. All fabrication welds shall be clean and smooth. The entire case shall be hot dip galvanized per ASTM-123.T

1.3.2 The cabinet is to be equipped with an instrument compartment welded to one end of the case prior to galvanizing. This compartment shall house the circuit breaker, output meters and the output terminals and shall have a hinged door and lockable stainless-steel latch.

1.3.3 The lid on the oil chamber shall be hinged on one side and have a minimum of four stainless steel latches to provide a moisture proof seal. The gasket on the lid shall be an oil resistant neoprene sponge.

1.3.4 On rectifiers five- Hundred (500) watts and above, the transformer and stack shall be mounted on separate removable racks in the oil chamber.

1.3.5 The internal horizontal panel on which the voltage adjustment taps, AC input terminals and D.C. terminals are mounted shall be at least four inches below the recommended oil level as marked within the oil chamber.

1.3.6 All connecting wires from oil chamber to the instrument compartment shall be sealed with an oil resistant compound. These wires shall have a ½" gap in the insulation above oil level to prevent siphoning.

1.4 TRANSFORMER

1.4.1 The transformer shall be specifically designed for use in a cathodic protection rectifier, having separate primary and secondary copper windings. Wire size on both windings is to be based on a minimum of 1,000 circular mils per ampere. The material used in the core of the transformers shall be of such quality that core losses do not exceed 0.62 watts per pound. The amount of core material shall be no less than the amount given by the following formula:

AC = The square root of the watts in the primary divided by 5.58

1.4.2 AC = The minimum area of core in square inches. The core area is figured as the cross-sectional area of that portion of the core which passes through the coil.

1.4.3 The transformer shall be immersed in class F transformer varnish until all taps, insulating materials, outer wrapping and coil windings have been completely saturated. The transformer will then be oven baked until completely dry.

1.4.4 When a three-phase rectifier is specified, it shall be provided with a three-phase transformer with three separate wound legs or three separate transformers.

1.4.5 The secondary shall have a sufficient number of coarse and fine taps to provide a minimum of 18 equal step of adjustment. These taps shall be brought out to link bar arrangement for adjusting the output of the rectifier.

1.4.6 The link bars shall be terminated on at least a 5/16" stud lug that has one end drilled out so that the transformer tap wire can be soldered to the back of the stud.

1.4.7 Quick change plastic knobs with brass inserts shall be used to connect the link bars to the studs.

1.5 RECTIFYING ELEMENTS

1.5.1 The rectifier stack shall consist of high current density selenium cell arranged to give full wave rectification. Ratings shall be within the manufacturer's recommended current rating for continuous operation with a 50 degrees C ambient temperature.

1.5.2 The RMS voltage rating of the rectifier stack shall be sufficient to withstand, without damage, the full output of the transformer secondary when the load is disconnected from the D. C. terminals, i.e., under open circuit conditions.

1.5.3 When silicon is used as the rectifying element, current rating for continuous operation shall be for 50 degrees C. ambient and the PRV rating of the diodes shall be at least 1200 PIV. The diodes shall be protected against high voltage surges with selenium surge suppressors.

1.5.4 Current and voltage shall be de-rated for higher ambient temperature, where required, and in accordance with the manufacturer's recommendations.

1.6 PROTECTIVE DEVICES

1.6.1 The entire unit is to be protected against overload and short circuit with a fully magnetic circuit breaker of proper rating connected between the A.C. supply and transformer primary.

1.6.2 Circuit breakers shall have two poles for single phase units and three poles for three phase units. In the case of 100 amps or less silicon rectifiers, single pole, fully magnetic circuit breakers shall be inserted in one leg of the A.C. secondary of single-phase units and in at least two of the secondary legs of a three-phase unit.

7.1.1 All units above 100 amps shall be bolt in style fuses and shall not rely on pressure type fuse holders.

1.7 DC METERS

1.7.1 One D.C. voltmeter and one D.C. ammeter shall be provided. Each will have an accuracy of 2% full scale. Hoyt # 17/3 meters or approved equal shall have minimum scale lengths of 1 5/8".

1.7.2 The ammeter shall be connected to an external shunt with and accuracy of at least 1%.

1.7.3 The shunt shall be plainly marked to show ampere rating and millivolt drop. This shunt is to be mounted on the front panel of the rectifier so as to be readily accessible for meter accuracy checks.

1.8 DC TERMINALS

1.8.1 Solderless lugs rated for full rectifier output current shall be provided for the positive and negative output terminals of the rectifier and shall be mounted on an insulated panel.

1.8.2 Output terminals shall be clearly identified on the panel as "Positive" and "Negative".

1.9 WIRING AND CONDUCTORS

1.9.1 All wiring within the rectifier, except the meter circuits, shall be of the high temperature motor lead wire with a minimum of 105 degrees C rating. Wire size shall be based on not less than 500 circular mils per ampere.

1.9.2 All current carrying bolts, terminals and connections made through the panel shall be either soldered to the bolt head or made by use of double nut method, so as not to depend on the compression strength of the panel to maintain a tight connection.

1.9.3 Tap changing studs and output lugs shall be a minimum of 5/16" diameter.

1.10 RECTIFIER DATA

1.10.1 Each rectifier shall be provided with an engraved metal nameplate with the following information.

1. Name of manufacturer
2. AC input voltage
3. AC input amperes
4. AC frequency
5. Phase
6. DC output volts
7. DC output amperes
8. Ambient temperature in degrees C.

1.10.2 In addition to this a waterproof envelope, placed in a suitable holder in the rectifier door, shall contain a complete wiring diagram, operating and maintenance manual and a copy of the test data obtained on the final bench check out of the rectifier.

1.11 INSTRUMENT PANEL

1.11.1 Phenolic grade XXX, non-conductive, moisture resistant, specifically designed for panel board use.

2 AC POWER

2.1 An AC Power Disconnect rated at 460/3/60 - 20 amps will be furnished by the City of Mobile. It is to positioned within ten-feet (10') of the rectifier's installed location. It shall be the responsibility of the contractor to connect the AC power from the disconnect provided by others to the new rectifier's control circuitry.

3 REMOTE RECTIFIER MONITORING

3.1 The rectifier, if required by the owner, is to have an American Innovation Satellite Rectifier Remote Monitor Unit Model No. RM4014S with Surge Arrester connected to the rectifier. At the time of the preparation of this specification, the owner has not made a decision as to whether this will be a requirement of the project or not.

4 RECTIFIER OIL

4.1 The Rectifier Oil shall be Tulstar Transformer Oil Type II OT-3216 into the rectifier.

5 RECTIFIER POSITIVE AND NEGATIVE HEADER CABLE

5.1 The rectifier's single Positive Header Cables is to be AWG #2/0 copper stranded HMWPE header cable with RED insulation. The rectifier's Negative Header Cable is to be AWG #2/0 copper stranded HMWPE header cable.

5.2 Rectifier positive and negative header cables shall be an AWG #2/0. They are to be copper stranded HMWPE Cathodic Protection Cable, manufacturer by Kalas MFG. This cable conforms to ASTM specifications B-8 and B-3, latest edition. It also conforms to ASTM D-1248, Type 1, Class C Category 5 Grade E-5 and J-3: and IPECA S61-402, Part 6 paragraph 6.11, 4a. The cable shall be identified by the surface ink printed with "Conductor Size, Kalas MFG, Co., HMWPE CATHODIC PROTECTION CABLE". The positive header cable is to be supplied with RED insulation.

6 IMPRESSED CURRENT ANODES

6.1 The anodes shall be Anotec Model No. 4884-LZ High Silicon Iron Anodes, which have a tubular geometry with the dimensions of 3.2 inches in diameter and 84 inches long. The anodes weigh without cable 123 pounds.

6.2 Anodes shall be chilled cast high silicon iron anodes. The lead wired is to be an AWG #6 copper stranded PVDF/HMWPE insulated CP cable. The lead wire is to be assembled to the anode via an approved Anotec distributor using the Anotec Hydraulic Anchor Seating Machine.

6.3 The connection resistance should no greater than 0.001 ohms between the anode and its lead wire cable.

6.4 Anode Current Density and Life

6.4.1 The anode shall be rated at 6.6 to 8.8 amps for an estimated life of 15 years in seawater.

7 ANODE LEAD WIRE CABLE

7.1 Electrical Data – The cable shall have a DC current rating of 70 amps at 600C, with a copper cross section of AWG #6 copper stranded.

7.2 Insulation Data – The insulation shall have of two (2) insulation layers and be PVDF/HMWPE chlorine resistant insulated cable.

7.3 The inner layer shall be PVDF fluoropolymer with a thickness of 20 mils.

7.4 The outer layer shall be high molecular weight polyethylene with a thickness of 65 mils.

7.5 The cable length for each waterside anode will vary based on its installation location to its respective Anode Shunt Junction Box. Refer to the provided drawing for approximate "anode cable lengths" within each rectifier zone.

7.6 Anode lead wire cable shall be an AWG #6 copper stranded PVDF/HMWPE Cathodic Protection Cable, manufacturer by Kalas MFG. This cable conforms to ASTM specifications B-8 and B-3, latest edition. It also conforms to ASTM D-1248, Type 1, Class C Category 5 Grade E-5 and J-3: and IPECA S61-402, Part 6 paragraph 6.11, 4a. The cable shall be identified by the surface ink printed with "Conductor Size, Kalas MFG, Co., HMWPE CATHODIC PROTECTION CABLE".

8 ANODE SHUNT JUNCTION BOX

8.1 This Anode Shunt Junction Box measures 18" X 16" X 8".

8.2 It has twenty-two (22) circuits with Type SW Shunts rated at 50mV=5 Amps and KA-4C lugs for AWG #6 Cable. Above the Shunt will be engraved "1 mV = .1 Amp".

8.3 It is to have one rectifier positive common Header Lug No. KPA-28 for AWG #2/0 Cable.

8.4 There shall be two isolated terminals for AWG #10 cable with the engraving "STRUCTURE TEST LEADS" above the two lugs.

8.5 All nuts and bolts will be stainless steel.

8.6 The Busbar and terminal lugs will be nickel-plated copper.

9 TEST LEAD CABLE

9.1 Test lead cables are to be AWG #10 copper stranded HMWPE Cable and are terminated in the Anode Shunt Junction Box for each rectifier zone.

9.2 The connection of the two structure test leads to the seawall is to be achieved by thermite welding or pin brazing two AWG #10 copper stranded HMWPE test wire leads to a 6" by 6" by ¼" thick steel plate. Next the steel plate is to be double pass welded to the Mobile Maritime Museum's seawall bulkhead. The location of where the test lead steel plate is to be welded to the seawall is to be in the general area where each Junction Box is located. The welded steel plate, including the thermite weld areas are then to be coated with Alocit 28.15 Underwater Epoxy. This coating system is an approved underwater coating system for this project. The test leads themselves are to be routed in electrical grade PVC Conduit from the seawall to its Anode Shunt Junction Box. The conduit is to be anchored to the steel Z-plate seawall bulkhead and to the seawall's concrete cap using SS316, two-hole heavy duty conduit clamps. The conduit for the test leads is to extend into the water a minimum of six feet (6'). Distances between conduit clamps cannot exceed three feet (3').

10 QUIKRETE BURLAP RIP-RAP BAGS

10.1 Quikrete Rip Rap Burlap Concrete Bags are to overlaid continuously over the anode cables as they are run to the face of the seawall and then down the face of the seawall back to their appropriate Anode Shunt Junction Box. The part number for these 60-pound bags is1129-61.

10.2 The purpose of these Rip Rap Bags is two-fold. First, they are installed to keep the anode cables fixed on the bottom of the seafloor. Second, they are there to serve as protection against mechanical damage from objects that may fall from above and impact the cables resulting in damage to the cables and their insulation.

11 SHIP BONDING STATION - B

11.1 The Ship Bonding Station is to be installed at a location near the 450-foot location as measured from South to North at the Mobile Maritime Museum's seawall. The Ship Bonding Station is a 16" x 14" X 6" fiberglass box with one (1) Type SW Shunt rated at 50mV-200A. It includes two (2) KA-28 lugs for 4/0 cable, The left lug will be engraved with "SHIP HULL" and the right lug will be engraved with "SEAWALL".

11.2 It will be mounted to a 4" galvanized I-beam similar to the Anode Shunt Junction Boxes. It will be also protected with four steel barricade posts filled with concrete. Please see the attached drawing for more details. The Ship Bonding Station will have a 4/0 grounding cable terminated in the Ship Bonding Station. The other end of this cable will be thermite welded to a 4" X 4" X 1/2" thick steel plate which has been double passed welded to the seawall at this same location. The weld location is to be about three feet below the surface of the water directly to the z-plate seawall. The entire weld plate is to be liberally coated with Alocit 28.15 Underwater Epoxy coating after being welded to the seawall. The 4/0 cable is routed to the surface and then to the Ship Bonding Station in PVC electrical grade conduit. Inside the Ship Bonding Station will be a 200 Amp Shunt and an additional 4/0 lug. This additional 4/0 lug is being provided for any ship that is moored at the dock to make the ship's hull electrically continuous with the seawall. Since the seawall will be under cathodic protection, it is most important that all steps be taken to insure the avoidance of interference corrosion on the ship's hull. It is to be understood that it is the ship's responsibility to provide their own ship's hull connection cable. The additional 4/0 lug is provided for this connection. Once connected the shunt in the Ship Bonding Station can be used to measure any DC current being shared between the seawall and the ship's hull, along with the direction of current flow.

SECTION 3- EXECUTION AND INSTALLATION

1 RECTIFIER

1.1 The installation of the rectifier and related equipment shall comply with local, state, and national electric codes.

1.2 For the Mobile Maritime Museum 's waterside CP system, there is to be two (2) rectifiers installed on the elevated platform located on the northeast corner of the Mobile Cruise Line Terminal Building.

1.3 Actual rectifier DC output voltage required shall be determined by actual anode(s) to seawall bulkhead resistance. This resistance value is to be measured by using a temporary DC power source and powering up the installed linear anode system. Then and only then can the rectifier's voltage capability be ascertained. Hence, the rectifier shall not be ordered until CP circuit resistance has been measured.

1.4 The rectifier specified in the Bill of Materials was based on data collected from the field (water resistivity). It is felt that the calculated circuit resistance of this rectifier will be very close to what will be actually purchased after the actual circuit resistance is determined. Unless there is a significant difference between the calculated circuit resistance and the actual circuit resistance, then a price change will not be allowed for the rectifier. A "significant difference" is defined as a circuit resistance difference of more than 10%. If a price change is requested on this item, then the contractor shall submit a copy of the original quoted cost from the manufacturer and a copy of the quote for the rectifier based on the actual circuit resistance of the CP system. The amount of the price change allowed will be limited to the rectifier's cost difference with a 20% profit margin applied to the cost difference (Cost Difference X 1.20 = Allowed Price Change).

1.5 The installation of the positive and negative cables for this rectifier will require cutting concrete curbs, concrete decks and/or sidewalks.

1.6 The contractor will be responsible for replacing all concrete that he disturbs.

1.7 Rectifier negative structure cables are to be thermite welded to a 6" X 6" X ¼" steel plate. This steel plate will then be welded to the waterside of the Mobile Maritime Museum Seawall Bulkhead using the double pass welding technique. This steel plate assembly is then to be completely and liberally coated with Alocit 28.15 Underwater Epoxy.

1.8 Rectifier positive anode header cables are to make their transition in the same general location as where each rectifier's negative cables are attached to the seawall. They are to be encased in PVC Electrical Grade Conduit as it is routed from above the water level to below water level. Gulf States Hanger Model No. SS316 Fig. 115 Two- Hole Cable Clamps and/or Special SS316 Fig. 88A Standoff Clamps with 4 conduit mounting places are to be used to anchor the conduit to both the seawall's concrete cap and/or the z-plate of the seawall itself. The distance between two-hole conduit clamps cannot exceed three feet (3'). Please refer to drawings provided with this specification for more detail.

1.9 There are to be no underwater splices in rectifier positive or negative header cables.

2 ANODE SHUNT JUNCTION BOX – CABLE

2.1 The Anotec Anode's AWG #6 lead wire cables are to be terminated in the Anode Shunt Junction Boxes. There are to be no splices in these anode cables.

2.2 When the anode cables are brought from underwater to the atmosphere, they are to be routed in 2" Schedule 80 Electrical Grade PVC Conduit. The conduit is to be held in place with Gulf States Hanger and Supports' Fig. No. 115 2" SS316 Two-Hole Conduit Clamps in the area of the seawall bulkhead's concrete cap. The maximum spacing between these clamps is not to exceed three-feet (3') and there must be minimum of two (2) of these clamps installed in the concrete cap area. Below the concrete seawall bulkhead's concrete cap, where the seawall bulkhead's steel z-plate is located, Gulf States Hangers and Supports Fig No. 88A-Special SS316 Offset Conduit Clamps are to be welded to the face of the steel z-plate seawall bulkhead to further support the conduit runs. Please refer to the drawing set provided with this specification as it relates to these "Offset Conduit Clamps. All four (4) of the 2" PVC

Conduits that run from the bottom of the Anode Shunt Junction Box are to extend a distance of 6-feet (6') from the seafloor bottom so that these clamps line up with the face of the seawall bulkhead's concrete cap. Since each seawall bulkhead is different, the contractor will be responsible for determining the "offset" distance from the z-plate and the vertical conduit runs so that they all line up with the face of the seawall bulkhead's concrete cap and then into their Anode Shunt Junction Box mounted on and above this area on top of the Terminal's concrete deck. The maximum distance between these "Offset Clamps" cannot exceed three-feet (3') on these conduit runs below the seawall bulkhead's concrete cap.

2.3 The anode lead wire cables are to run directly along the face of the seawall on the seafloor bottom, and then up the face of the seawall to its appropriate Anode Shunt Junction Box. These anode cable runs, to include the "rectifier's positive" cable run, will be overlayed continuously with "Ballast Quikrete Rip-Rap Bags" on the seafloor bottom.

2.4 The installation of cables and related equipment shall comply with all local, state, and national electric codes.

3 ANODE INSTALLATION

3.1 The Anotec Anodes are water jetted into the seafloor bottom as previously described in Paragraph 3-1-3.

3.2 Anode cables are to be routed directly to the face of the seawall. They are then routed along the face of the seawall to the general area of their appropriate Anode Shunt Junction Box. The anode cables are then routed up to their Anode Shunt Junction Box inside of PVC electrical grade conduit.

3.3 Anode cables when laid on the seafloor bottom are to be overlaid continuously with Quikrete Burlap Rip Rap Bags.

3.4 The water depth along face of the Mobile Maritime Museum Bulkhead Seawall varies. For installation purposes, the contractor can safely use the depth of thirty-feet (30') for their calculations.

3.5 The contractor may at his discretion move anodes and related cable runs to locations that are different from the locations shown on the installation drawings. These locations changes can be associated with underground, underwater, and/or unknown obstacles that are encountered during installation. These changes are to be noted and communicated to the customer's engineer on the project, as well as being shown on the contractor's "as-built" drawings.

4 ANODE SHUNT JUNCTION BOX INSTALLATION

4.1 The Anode Shunt Junction Box is to be installed in the middle of its rectifier zone. As mentioned earlier these Junction Boxes are to mounted to a galvanized 4" I-beam pedestal. All mounting hardware and concrete anchors used in the mounting of the junction box shall be SS316.

4.2 The Anode Shunt Junction Boxes will be mounted on the Maritime Museum's concrete deck approximately fifteen-feet (15') from the eastern edge of the dock. They are to be located so that they do not interfere ship mooring ropes.

4.3 Each Anode Shunt Junction Box is to be protected by four each six-inch (6") diameter concrete filled Bollard posts. Please refer to the attached drawing included in the drawing package for this specification. This drawing will show the locations where the contractor is to install them.

4.4 There will be four (4) each 2" PVC conduit penetrations into each of the junction boxes. Twenty-two (22) AWG #6 anode lead wires, two (2) AWG #10 test lead wires and one (1) AWG #2/0 rectifier positive cable will enter the junction box via these three penetrations.

4.5 All conduit penetrations into the Anode Shunt Junction Box shall be waterproof penetrations. This means that all PVC Terminal Adapter Fittings are to be PVC glued into the Shunt Box in addition to a SS fender washer and locknut being installed on the Terminal Adapter fitting inside the junction box.

4.6 After the Anode Shunt Junction Box installation is finalized and the anode cables have been terminated in their proper lug on the busbar, to include the termination of the rectifier's positive cable and test lead cables, expanding foam is to be sprayed inside the ID of each conduit penetration for the purpose of blocking water migration into the junction box through the conduit.

5 SURFACE CABLE ROUTING JUNCTION BOXES

5.1 For the Maritime Museum's "waterside" CP system, there will be three (3) of these Surface Cable Routing Junction Boxes. The aircraft rated frame and cover is to be EJ USA, Inc.'s Model 8083 Frame and Cover. They are to be used for access the inside of the Surface Cable Routing Boxes, which are constructed using rebar and concrete. The actual concrete construction details for the Surface Cable Routing Junction Boxes to which the EJ Frame and Cover are to be mounted, are show in the drawing package with this specification

5.2 Two (2) of these boxes are located close to the eastern edge of the Maritime Museum's deck directly in front of the two(2) Anode Shunt Junction Boxes for this CP system. Please refer to the drawing provided with this specification for more detail information.

5.3 The third Surface Cable Routing Box is located directly across from the Ship Bonding Station on the eastern edge of the of the Maritime Museum's deck. Please refer to the drawing provided with this specification for more detail information.

5.4 If the need arises, the contractor may make cable splices in the Surface Cable Routing Boxes. These splices are permitted for the purposes of facilitating the arduous task of cable installation. These splices are to use the Burndy Crimping System, using either the Burndy "C" Crimps, or the Burndy "Butt" Crimps. The spliced crimps are then to be sealed with Royston's "Splice Right" splice kits.

SECTION 4- ENERGIZING AND TESTING

1 TESTING

1.1 AMPP (NACE) Criteria: The achievement of cathodic protection is to be based on acceptable AMPP (NACE) criteria. The AMPP (NACE) criterion that is to be used for the seawall bulkhead is SP0169-2013 and it states under section 6.2.1.2: "A minimum of 100 mv of cathodic polarization. Either the formation or decay of polarization must be measured to satisfy this criterion. There is an alternative criterion stated under section 6.2.1.3 which states: "A structure-to-electrolyte potential of -850 mv or more negative as measured with respect to a saturated copper/copper sulfate (CSE) reference electrode. This potential may be either a direct measurement of the polarized potential or a current-applied potential. Interpretation of a current-applied measurement requires consideration of the significance of voltage drops in the earth and metallic parts."

1.1.1 Since this project involves seawater, a silver-silver chloride (AGCL) reference cell will be used. The threshold potential of -850 mV using a CSE reference cell is equal to the potential of -800 mV when an AGCL reference cell is used.

1.2 To properly consider voltage drops in the CP system, a complete set of native potential readings are to be taken and recorded. After the system has been energized and adjusted, a polarized ("instant on/off") survey is to be conducted on the structure.

1.3 Upon completion of the installation of the waterside CP system, the system shall be energized, tested, and adjusted for proper operation. When the seawall bulkhead has been under cathodic protection for at least 30 days, a polarized ("instant on/off") survey is to be conducted. "Instant off" structure potentials from minus -800 mV to minus -1150 mV as measured with a silver-silver chloride reference electrode, shall be considered acceptable.

1.4 Report

1.4.1 Upon completion of the post installation survey, a written report shall be submitted that will include the following:

1.4.1.1 Rectifier data sheets to include the final setting and DC output.

1.4.1.2 Operation and maintenance instructions

1.4.1.3 Potential data - native

1.4.1.4 Potential data – On and Instant-Off

1.4.1.5 Individual anode current

SECTION 5- ERRORS AND OMISSIONS

1 DISCLAIMER

1.1 It is the contractor's responsibility to verify ***quantities,*** part numbers, and viability of all materials specified in this specification, as there may be errors and omissions.

1.2 It is also the contractor's responsibility to verify the design of the cathodic protection system as to its ability to achieve cathodic protection on the structures covered by this specification.

1.3 Since this contract's purpose is to install a new cathodic protection system, it is the responsibility of the contractor to achieve cathodic protection on the waterside of the Maritime Museum seawall to the best of their ability. If cathodic protection cannot be achieved under AMPP's (NACE) current criteria, then the contractor should include in his report what recommendations should be employed to ensure that it can be achieved.

SECTION 6- VENDOR RESOURCES

1 Stainless Steel Brackets

1.1 Gulf States Hangers and Supports: 7100 Bellingrath Road, Theodore, AL 36582 (251-653-6228)

2 Underwater Diving

2.1 Commercial Diving Services: Doug Christopher; 4376 Dawes Lane East; Mobile, AL 36619 (251-665-0017)

3 Universal Rectifiers

3.1 Universal Rectifiers: P.O. Box 1640, Rosenberg, TX 77471 (281-342-8471)

4 EJ USA Inc.

4.1 EJ USA, Inc. : 800-626-4653

SECTION 7- WARRANTY

1.1 **LIMITED WARRANTY**: This limited Warranty covers the installation and the equipment associated with the Cathodic Protection System (the "Product") supplied by the contractor ("installer") for this project.

1.2 **LIMITED ONE YEAR WARRANTY**: Subject to the limitations set forth below, Installer warrants to the purchaser ("Buyer") that the Product will be free from defects or failure caused by improper installation for a period of one (1) year from the Date of Installation ("the Warranty Period"). The Date of Installation shall be the date listed on the Purchase Invoice provided to Buyer by Installer.

SECTION 8- DIVING SUBCONTRCTOR

1.1 The Diving Subcontractor on this project shall possess the following:

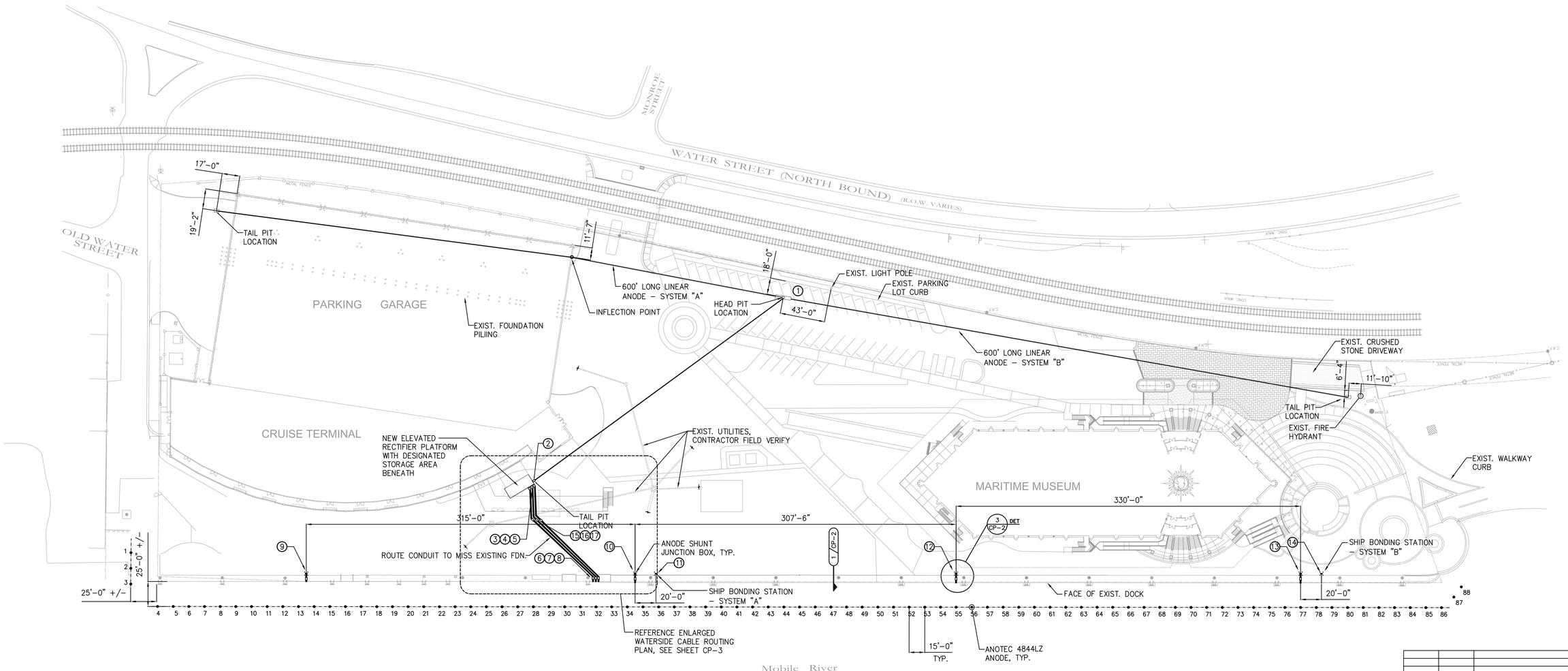
1.1.1 State Licensed Board for General Contractors certified member and a licensed "General Contractor in the State of Alabama in the field of H/RR-S: Marine Construction

1.1.2 Member in good standing with the Association of Diving Contractors International in the field of “Commercial Diving and Marine Services”

1.1.3 Approved by Alocit-USA as a “Certifier Underwater Coating Applicator”. When applied by an Alocit Certified Applicator, the coating has a warranty for 10 years.

1.1.4 Installation of underwater cathodic protection systems as evidenced by a minimum of at least five installations in the past ten years.

DRAWINGS



GRAPHIC SCALE

0 25 50 100 FT.

NORTH

CATHODIC PROTECTION ARRANGEMENT PLAN

SCALE: 1"=40'-0"

LEGEND

① EJ BOX NUMBER (17 TOTAL)

REVISION	DATE	DESCRIPTION
1	02.27.23	REROUTED CONDUIT
0	09.30.22	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
Structural Engineers
1614 GOVERNMENT STREET PHONE (251)473-8354
MOBILE, ALABAMA 36604-1102 FAX (251)473-8356

ALABAMA REGISTERED No. 15980 PROFESSIONAL ENGINEER RICHARD S. GOTTLIEB

City of Mobile Gulf Quest / Mobile

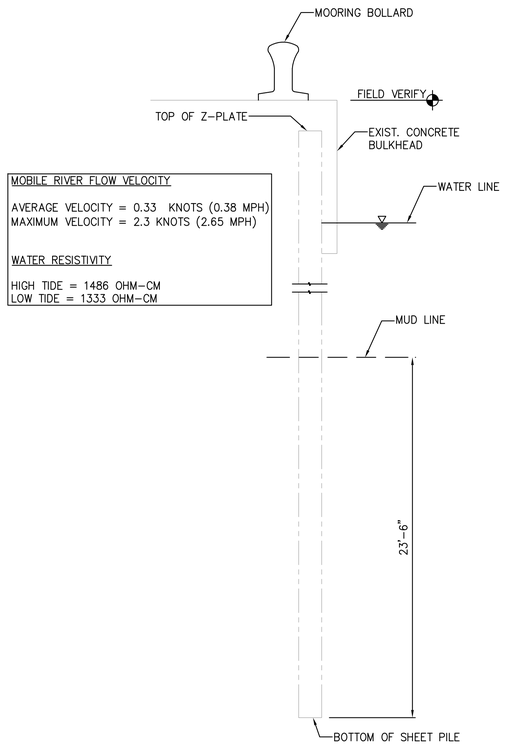
Mobile Cruise Terminal – Dock Improvements

Mobile, AL

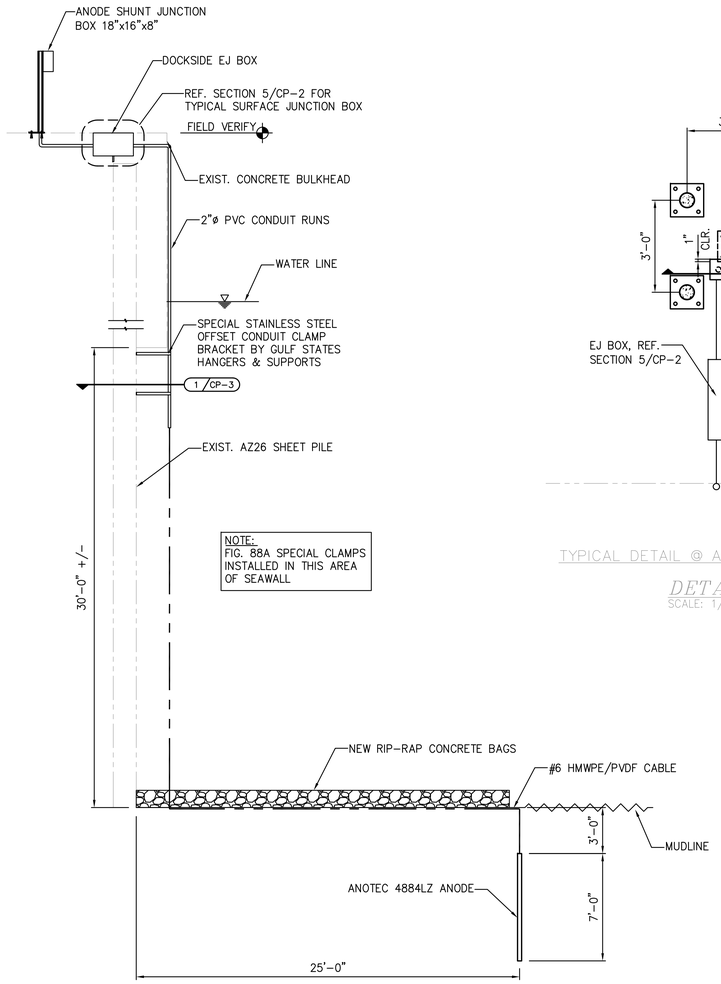
SHEET TITLE:

C.P. ANODE ARRANGEMENT PLAN

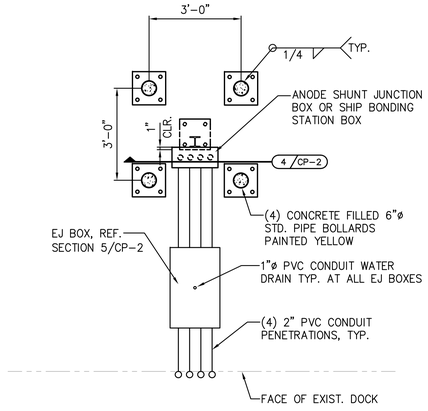
SCALE: AS NOTED	DESIGNED BY: SGM	SHEET NO. CP-1
PROJECT NO: 22053	CHECKED BY: SKW	
PLOT SCALE:	FILE NO.:	



SECTION
SCALE: 1/4"=1'-0" 1 CP-2

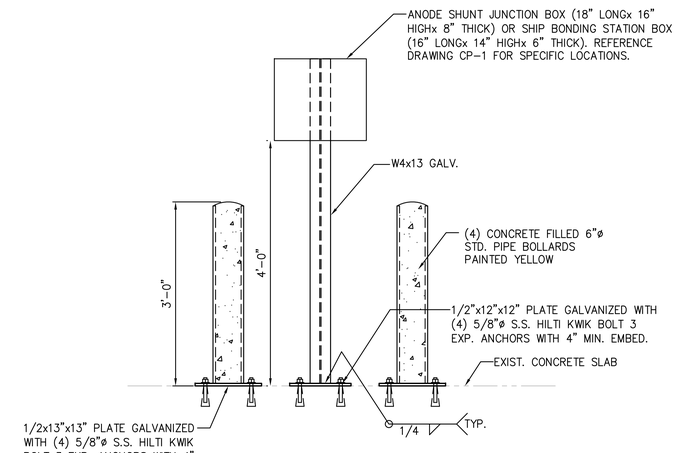


SECTION
SCALE: 1/4"=1'-0" 2 CP-2

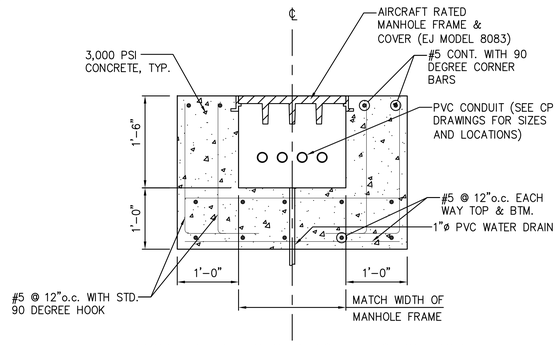


TYPICAL DETAIL @ ANODE SHUNT JUNCTION BOX

DETAIL
SCALE: 1/2"=1'-0" 3 CP-2

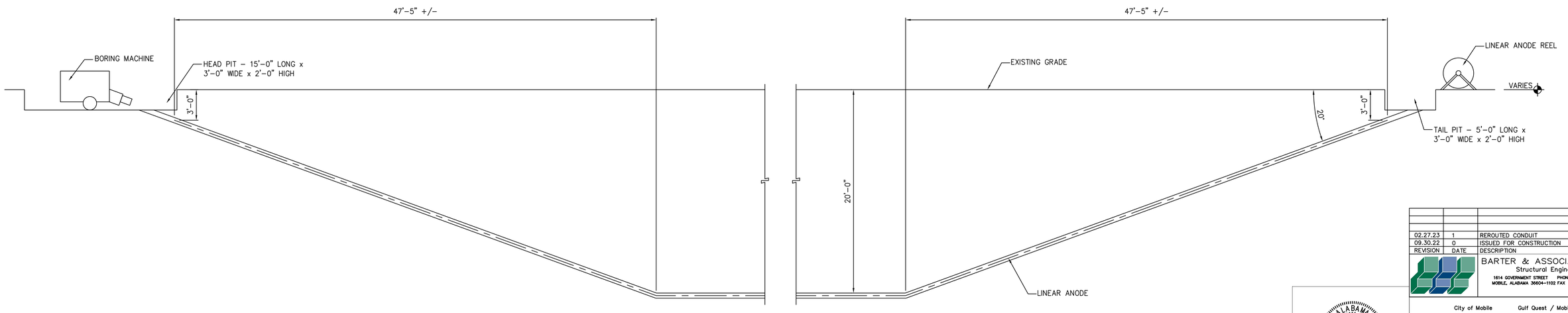


SECTION
SCALE: 1"=1'-0" 4 CP-2



TYPICAL DETAIL @ SURFACE JUNCTION BOX

SECTION
SCALE: 1"=1'-0" 5 CP-2



SECTION
SCALE: 1/4"=1'-0" 6 CP-2

REVISION	DATE	DESCRIPTION
02.27.23	1	REROUTED CONDUIT
09.30.22	0	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
Structural Engineers
1614 GOVERNMENT STREET PHONE (251)473-8354
MOBILE, ALABAMA 36604-1102 FAX (251)473-8356

City of Mobile Gulf Quest / Mobile

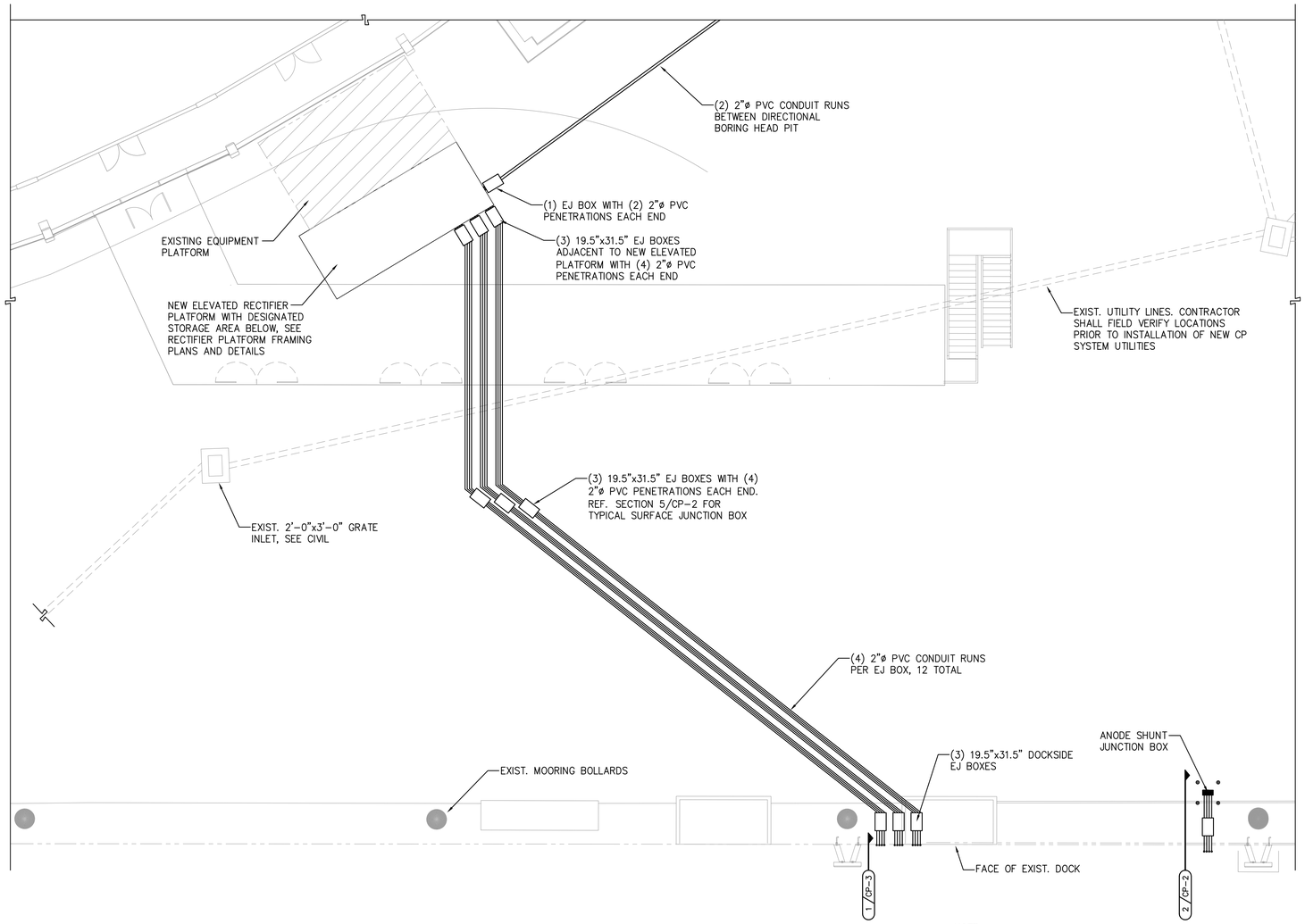
Mobile Cruise Terminal – Dock Improvements

Mobile, AL

SHEET TITLE:
TYPICAL SECTIONS AND DETAILS

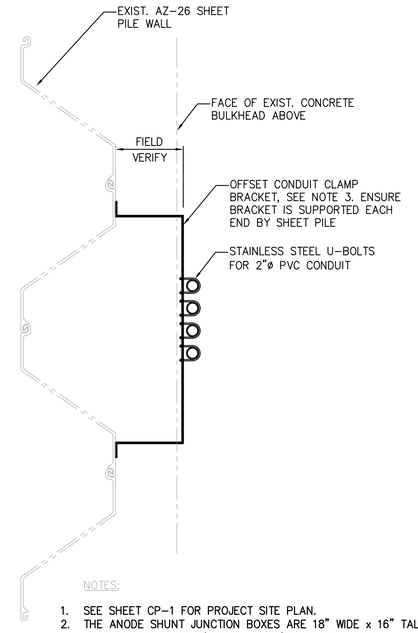
SCALE: AS NOTED	DESIGNED BY: SGM	SHEET NO. CP-2
PROJECT NO: 22053	CHECKED BY: SKW	
PLOT SCALE:	FILE NO.:	

ALABAMA REGISTERED No. 15980 PROFESSIONAL ENGINEER RICHARD S. GOTTLIEB
2/24/23



ENLARGED WATERSIDE CABLE ROUTING PLAN
SCALE: 1/8"=1'-0"

NOTE:
ALL CONDUIT BRACKETS, SUPPORTS, MOUNTING HARDWARE AND FASTENERS TO BE A304 OR A316 STAINLESS STEEL



NOTES:

1. SEE SHEET CP-1 FOR PROJECT SITE PLAN.
2. THE ANODE SHUNT JUNCTION BOXES ARE 18" WIDE x 16" TALL x 8" DEEP. SEE DETAILS 3/CP-2 AND 4/CP-2 FOR TYPICAL ATTACHMENT TO EXISTING DOCK.
3. CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE OFFSET DISTANCE BETWEEN THE SHEET PILE AND THE VERTICAL CONDUIT RUNS SO THAT THEY THEY ARE APPROPRIATELY ALIGNED WITH THE SEAWALL'S CONCRETE CAP AND THEN WITH THEIR ANODE SHUNT BOX. SEE TECHNICAL SPECIFICATIONS FOR ANODE TO ANODE SHUNT JUNCTION BOX – CABLE INSTALLATION.
4. CUT EXISTING HORIZONRAL 12X12 TIMBERS TO ALLOW CONDUIT TO ATTACHED TO CONCRETE DOCK. ANCHOR TIMBER ENDS TO THE DOCK WITH 316 SS BOLTS OF THE SAME SIZE AS EXISTING. USE EXPANSION BOLTS WITH 4" MIN. EMBEDMENT INTO CONCRETE.

TYPICAL DETAIL @ OFFSET CONDUIT CLAMP BRACKET

DETAIL 1/CP-3
SCALE: 1"=1'-0"

REVISION	DATE	DESCRIPTION
1	02.27.23	REROUTED CONDUIT
0	09.30.22	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
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ALABAMA REGISTERED No. 15980 PROFESSIONAL ENGINEER RICHARD S. COTTLE

City of Mobile Gulf Quest / Mobile
Mobile Cruise Terminal – Dock Improvements
Mobile, AL

SHEET TITLE:
TYPICAL SECTIONS AND DETAILS

SCALE: AS NOTED	DESIGNED BY: SGM	SHEET NO. CP-3
PROJECT NO: 22053	CHECKED BY: SKW	
PLOT SCALE:	FILE NO.:	

ELECTRICAL SPECIFICATIONS

1. GENERAL ELECTRICAL:
 1.1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS INDICATED WITHIN THESE DRAWINGS. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES AND WITH MANUFACTURER'S RECOMMENDATIONS.
 1.2. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING HIS BID. THE CONTRACTOR WILL BE REQUIRED TO FURNISH, INSTALL AND CONNECT ALL ITEMS AS INDICATED ON THE DRAWINGS.
 1.3. THE ARCHITECT SHALL BE NOTIFIED OF ANY CONFLICTS, OR INTERFERENCES THAT OCCUR BETWEEN INDIVIDUAL DRAWINGS.
 1.4. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT, FIRST CLASS, WORKMANLIKE MANNER, TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND GOVERNING AUTHORITIES.
 1.5. IN ADDITION TO THE MANUFACTURERS STANDARD GUARANTEES, THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP AGAINST DEFECTS FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND SHALL CORRECT ANY DEFECTS AT NO ADDITIONAL COST TO THE OWNER. ALL LAMPS SHALL BE GUARANTEED FOR 30 DAYS AFTER ACCEPTANCE.
 1.6. THE LOADS SHOWN FOR APPLIANCES AND EQUIPMENT ARE BASED ON DESIGN INFORMATION. THE CONTRACTOR SHALL VERIFY ALL APPLIANCE LOADS PRIOR TO RUNNING THE CIRCUIT. THE MINIMUM CIRCUIT REQUIREMENTS SHALL BE BASED ON THE APPLIANCE NAMEPLATE VALUE OR CODE REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ADDITIONAL COMPENSATION SHALL NOT BE ALLOWED FOR APPLIANCE MODIFICATIONS BY THE CONTRACTOR.
 1.7. PRIOR APPROVAL: PRIOR APPROVAL SHALL BE REQUIRED FOR ANY MANUFACTURER OTHER THAN THOSE LISTED FOR ALL SPECIFIED ITEMS IN THESE DRAWINGS. SUBMIT ALL REQUESTS FOR PRIOR APPROVAL 2 WEEKS PRIOR TO BID OPENING. ENGINEER'S APPROVAL WILL BE IN THE FORM OF AN ADDENDUM.

2. CODES & STANDARDS:
 2.1. INSTALLATION AND MATERIALS SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES & STANDARDS:
  2.1.1. NATIONAL ELECTRICAL CODE.
  2.1.2. NFPA 72. NATIONAL FIRE PROTECTION CODE.
  2.1.3. INTERNATIONAL BUILDING CODE.
  2.1.4. INTERNATIONAL ENERGY CONSERVATION CODE.
  2.1.5. NFPA 101.
  2.1.6. ADA .
  2.1.7. ANSI.
  2.1.8. NEMA.
  2.1.9. OSHA.
  2.1.10. UL.

3. ALTERATIONS & ADDITIONS TO EXISTING WORK:
 3.1. PROVIDE ALL NECESSARY ADDITIONS AND ALTERATIONS TO EXISTING WORK AS REQUIRED TO PROVIDE AND MAINTAIN A COMPLETE AND PROPER ELECTRICAL INSTALLATION.
 3.2. AS NECESSARY, RELOCATE EXISTING ELECTRICAL WORK SO OTHER TRADES CAN PURSUE THEIR WORK.
 3.3. MAINTAIN POWER TO EXISTING PORTIONS OF BUILDINGS FED FROM OR THROUGH AREA IN SCOPE OF THIS CONTRACT.
 3.4. COORDINATE ALL REQUIRED OUTAGES WITH OWNER.

4. BASIC MATERIALS & METHODS:
 4.1. ALL POWER AND DISTRIBUTION CABLING SHALL BE COPPER TYPE THWN/THHN.
 4.2. ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. LOCATED OUTDOORS SHALL BE WEATHERPROOF.
 4.3. ELECTRICAL CONTRACTOR SHALL PROVIDE ADEQUATE AND PROPER SUPPORT FOR ALL ELECTRICAL OUTLETS, DEVICES, LIGHT FIXTURES, ETC. BUILT IN OR MOUNTED ON CEILINGS. NO OUTLET BOX, DEVICE, LIGHT FIXTURE, ETC, SHALL BE SUPPORTED FROM ANY ACOUSTICAL CEILING TILE OR DRYWALL CEILINGS. PROVIDE METAL SUPPORTS THAT ARE MADE FOR USE WITH CEILING GRID SYSTEMS OR PROVIDE HANGERS FROM STRUCTURE ABOVE.
 4.4. CONDUIT ROUTINGS AND DEVICE/EQUIPMENT LOCATIONS SHOWN ARE DIAGRAMMATIC ONLY, CONTRACTOR SHALL FIELD ROUTE AND LOCATE AS REQUIRED. CONDUIT ROUTINGS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING LINES.
 4.5. JUNCTION BOXES LOCATED ABOVE CEILING SHALL BE INSTALLED FACING DOWN AND SHALL BE ACCESSIBLE AFTER INSTALLATION.
 4.6. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES AND STRUCTURAL COMPONENTS.
 4.7. THE CONDUIT MATERIAL SHALL BE AS FOLLOWS:
  4.7.1. BELOW GRADE - RNC (POWER & SITE LIGHTING ONLY). ELBOWS >1-1/2" SHALL BE RGS.
  4.7.2. RISER FROM 36" BELOW GRADE - RGS.
  4.7.3. CONCEALED RISER FROM 36" BELOW GRADE - RNC (POWER ONLY).
  4.7.4. ABOVE GRADE SUBJECT TO PHYSICAL ABUSE - RGS.
  4.7.5. ABOVE GRADE NOT SUBJECT TO PHYSICAL ABUSE OR WEATHER - EMT.
  4.7.6. INDOORS NOT SUBJECT TO PHYSICAL ABUSE - EMT. OR METAL CLAD CABLE(AS ALLOWED BY LOCAL AUTHORITY HAVING JURISDICTION).
  4.7.7. FINAL CONDUIT CONNECTIONS TO HEAT PUMPS, AIR HANDLERS, EXHAUST FANS, AND WATER HEATERS SHALL BE LFMC WHETHER INTERIOR OR EXTERIOR.
 4.8. CONDUIT FITTINGS SHALL BE AS FOLLOWS:
  4.8.1. EMT - <=2" USE STEEL SET SCREW WITH INSULATED THROATS FOR INTERIOR/ USE COMPRESSION FITTINGS WITH INSULATED THROATS FOR EXTERIOR, >2" USE SET-SCREW STEEL WITH INSULATED THROATS.
  4.8.2. RGS - THREADED GALVANIZED STEEL.
  4.8.3. PVC - PVC APPROVED FOR THE USE.
  4.8.4. FMC - ZINC-PLATED STEEL OR CADMIUM-PLATED MALLEABLE IRON SCREW TYPE WITH INSULATED THROAT.
  4.8.5. LFMC - CADMIUM-PLATED MALLEABLE IRON OR STEEL COMPRESSION TYPE WITH INSULATED THROAT.
 4.9. ALL OUTLET BOXES SHALL BE 4"X4"X1-1/2" DEEP MINIMUM.
 4.10. ELECTRICAL CONTRACTOR SHALL WORK CLOSELY WITH THE MASONRY CONTRACTOR ON THE INSTALLATION OF ALL ELECTRICAL BOXES, CABINETS, RINGS, ETC. IN MASONRY WALLS. THE BOXES SHALL BE INSTALLED AT THE UNIFORM HEIGHTS CALLED FOR ON THE DRAWINGS AND SPECIFICATIONS. PROVIDE APPROPRIATE DEPTH MASONRY RINGS FOR ALL OUTLETS IN MASONRY WALLS TO INSURE PROPER CUTTING AND FITTING. THE FACE OF THE CABINETS, BOXES, RINGS, ETC. SHALL BE PLUMB AND FLUSH WITH THE FACE OF THE FINISH MATERIAL. ANY CABINET, OUTLET BOX, ETC. NOT MEETING THE ABOVE REQUIREMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL COST TO THE OWNER.
 4.11. ALL SIDEWALKS AND PARKING LOT ASPHALT AREAS THAT ARE CUT DUE TO NEW ELECTRICAL SERVICES SHALL BE REPAIRED TO MATCH EXISTING.
 4.12. ALL DIMENSIONS TO DEVICES AFF SHALL BE TO CENTERLINE UNLESS NOTED OTHERWISE.
 4.13. COORDINATE LOCATIONS OF ELECTRICAL EQUIPMENT, DEVICES, OUTLETS, FIXTURES, ETC., WITH STRUCTURAL PLANS, ELEVATIONS AND REFLECTED CEILING PLANS PRIOR TO ROUGH-IN WORK.

5. GROUNDING & BONDING:
 5.1. PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS.
 5.2. BELOW GRADE CONNECTIONS SHALL BE EXOTHERMIC TYPE.
 5.3. ALL CABLES SHALL BE COPPER, ALL BOLTED CONNECTIONS SHALL BE BRONZE.

6. IDENTIFICATION:
 6.1. PROVIDE ENGRAVED 1"X3" PHENOLIC LABELS FOR ALL PANELBOARDS, SAFETY SWITCHES, TRANSFORMERS, CABINETS, ETC.
 6.2. PAINT THE RACEWAY SYSTEM COUPLINGS AND BOX COVERS ABOVE CEILINGS FOR THE FOLLOWING SYSTEMS AS FOLLOWS:
  6.2.1. 480 VOLT SYSTEMS - BROWN.
  6.2.2. AFTER PAINTING, WRITE THE CIRCUIT NUMBER (I.E. "LPA-34") ON ALL BRANCH CIRCUIT JUNCTION BOX COVERS ABOVE CEILING WITH WHITE MARKER.

7. SAFETY SWITCHES:
 7.1. GENERAL DUTY, VISIBLE BLADE, LOCKABLE, QUICK-MAKE/QUICK-BREAK, HORSEPOWER RATED, FUSED WHERE INDICATED.
 7.2. PROVIDE WITH GROUND LUG KIT.
 7.3. INTERIOR - NEMA 1.
 7.4. EXTERIOR - NEMA 3R.
 7.5. APPROVED MANUFACTURERS - SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER SIEMENS, EATON.

8. PANELBOARDS:
 8.1. FRONT ACCESSIBLE, BOLT-ON MOLDED CASE C/Bs, COPPER PHASE & NEUTRAL BUSSING, COPPER GROUND BAR, FULLY RATED (SERIES RATING NOT ALLOWED).
 8.2. PROVIDE UPDATED TYPE-WRITTEN DIRECTORY IN CLEAR SLEEVE ON INSIDE OF DOOR OF MODIFIED PANELS.

ABBREVIATIONS

A	AMPS	MCM	THOUSAND CIRCULAR MILS
AC	ABOVE COUNTER	MH	MANHOLE
AF	AMP FRAME	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MISC	MISCELLANEOUS
AFG	ABOVE FINISHED GRADE	MLO	MAIN LUGS ONLY
AHU	AIR HANDLING UNIT	MNT	MOUNTING HEIGHT
AL	ALUMINUM	MTG	MOUNTING
ARCH	ARCHITECT OR ARCHITECTURAL	MTS	MANUAL TRANSFER SWITCH
AT	AMP TRIP	MV	MEDIUM VOLTAGE
ATS	AUTOMATIC TRANSFER SWITCH	N1	NEMA 1
ATU	AIR TERMINAL UNIT	N3R	NEMA 3R
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
BAS	BUILDING AUTOMATION SYSTEM	NA	NOT APPLICABLE
BFG	BELOW FINISHED GRADE	NEC	NATIONAL ELECTRICAL CODE
BJ	BONDING JUMPER	NESC	NATIONAL ELECTRICAL SAFETY CODE
BKR	CIRCUIT BREAKER	NEU	NEUTRAL
BLDG	BUILDING	OCPD	OVERCURRENT PROTECTION DEVICE
BOD	BASIS OF DESIGN	OFOI	OWNER FURNISHED OWNER INSTALLED
C	CONDUIT	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
C/B	CIRCUIT BREAKER	OH	OVERHEAD
CL	CURRENT LIMITING	OHE	OVERHEAD ELECTRIC
C/L	CENTERLINE	OHP	OVERHEAD PRIMARY
CLG	CEILING	OHS	OVERHEAD SECONDARY
CKT	CIRCUIT	PBD	PANELBOARD
CT	CURRENT TRANSFORMER	PF	POWER FACTOR
CU	COPPER	PNL	PANELBOARD
DDC	DIRECT DIGITAL CONTROL	PT	POTENTIAL TRANSFORMER
DEMO	DEMOLISH	PWR	POWER
EC	ELECTRICAL CONTRACTOR	REC	RECEPTACLE
EGC	EQUIPMENT GROUNDING CONDUCTOR	REQD	REQUIRED
ELEC	ELECTRICAL	RM	ROOM
EMGB	ELECTRICAL MAIN GROUNDING BUSBAR	RGS	RIGID GALVANIZED STEEL CONDUIT
EF	EXHAUST FAN	RNC	RIGID NON-METALLIC CONDUIT
EX	EXISTING TO REMAIN	RVSS	REDUCED VOLTAGE SOLID STATE
EXT	EXTERIOR	SA	SURGE ARRESTER
EWC	ELECTRIC WATER COOLER	SCA	SHORT CIRCUIT AMPS
EMT	ELECTRICAL METALLIC TUBING	SF	SUPPLY FAN
EQUIP	EQUIPMENT	SPEC	SPECIFICATION
FMC	FLEXIBLE METAL CONDUIT	SWBD	SWITCHBOARD
FACP	FIRE ALARM SYSTEM CONTROL PANEL	SWGR	SWITCHGEAR
FU	FUSE	TBB	TELECOMMUNICATIONS BONDING BACKBONE
F/A	FIRE ALARM	TR	TELECOMMUNICATIONS ROOM
FLA	FULL LOAD AMPS	TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
FLR	FLOOR	TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
FVNR	FULL VOLTAGE NON-REVERSING	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
GFI	GROUND FAULT INTERRUPTER	TYP	TYPICAL
G	GROUND (OR GFI FOR RECEPTACLE SUBSCRIPT)	UFR	UNDERFLOOR RACEWAY
GC	GENERAL CONTRACTOR	UG	UNDERGROUND
GND	GROUND	UGE	UNDERGROUND ELECTRIC
GEC	GROUNDING ELECTRODE CONDUCTOR	UGP	UNDERGROUND PRIMARY
HH	HANDHOLE	UGS	UNDERGROUND SECONDARY
HOA	HAND-OFF-AUTOMATIC	UL	UNDERWRITERS' LABORATORIES
HP	HEAT PUMP OR HORSEPOWER	UNO	UNLESS NOTED OTHERWISE
HVAC	HEATING, VENTILATION & AIR-CONDITIONING	UPS	UNINTERRUPTIBLE POWER SUPPLY
IG	ISOLATED GROUND	V	VOLT
IMC	INTERMEDIATE METAL CONDUIT	VA	VOLT-AMPERES
JB	JUNCTION BOX	VAR	VOLT-AMPERES REACTIVE
k	KILO	VAV	VARIABLE AIR VOLUME UNIT
kAIC	KILO-AMPERE INTERRUPTING CAPABILITY	W	WATTS
kCMIL	THOUSAND CIRCULAR MILS	WAO	WORK AREA OUTLET
LCP	LIGHTING CONTROL PANEL	WP	WEATHERPROOF
LTG	LIGHTING	WSR	WITHSTAND RATING
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT	XFMR	TRANSFORMER
LV	LOW VOLTAGE	XP	EXPLOSION PROOF
MAX	MAXIMUM	ϕ	PHASE
MCA	MINIMUM CIRCUIT AMPACITY	72°	DEGREES
MCC	MOTOR CONTROL CENTER	Δ	DELTA
MCE	MAIN COMMUNICATIONS EQUIPMENT ROOM	Ω	OHMS

ELECTRICAL LEGEND

DISTRIBUTION & POWER EQUIPMENT:

- PANELBOARD. MOUNT AS INDICATED. SEE PANELBOARD SCHEDULES.
- NON-FUSED GENERAL DUTY SAFETY SWITCH. SIZE FOR LOAD BEING SERVED.

MISCELLANEOUS EQUIPMENT:

- (E) ELECTRICAL CONNECTION TO EQUIPMENT. VERIFY LOCATION WITH EQUIPMENT PROVIDER.

OTHER:

- CIRCUIT RUN CONCEALED ABOVE CEILING OR IN WALL.
- CIRCUIT RUN CONCEALED IN OR BELOW FLOOR SLAB OR UNDERGROUND.
- 2P2-9 — HOMERUN TO PANELBOARD. ANY CIRCUIT WITHOUT FURTHER DESIGNATION SHALL BE 2#12,#12G,3/4"C. TICK MARKS INDICATE # OF CONDUCTORS (EGC NOT SHOWN). MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 50 FEET SHALL BE #10 AWG. MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 100 FEET SHALL BE #8 AWG. MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 160 FEET SHALL BE #6 AWG. MINIMUM SIZE ON 277V HOMERUNS GREATER THAN 100 FEET SHALL BE #10 AWG. INCREASE CONDUIT SIZE AS REQUIRED PER NEC. UNDERLINED TEXT INDICATES CIRCUIT DESIGNATION.
- (1) SHEET NOTE TAG.
- (4LP1) PANELBOARD, SWITCHBOARD, TRANSFORMER & ELECTRICAL EQUIPMENT IDENTIFICATION TAG.

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DELL CONSULTING PROJECT: 21-130

ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 25105
ANDREW W. MAURIN
9-9-2022

REVISION	DATE	DESCRIPTION
	09/30/2022	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
Structural Engineers
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City of Mobile Gulf Quest / Mobile

Mobile Cruise Terminal - Dock Improvements

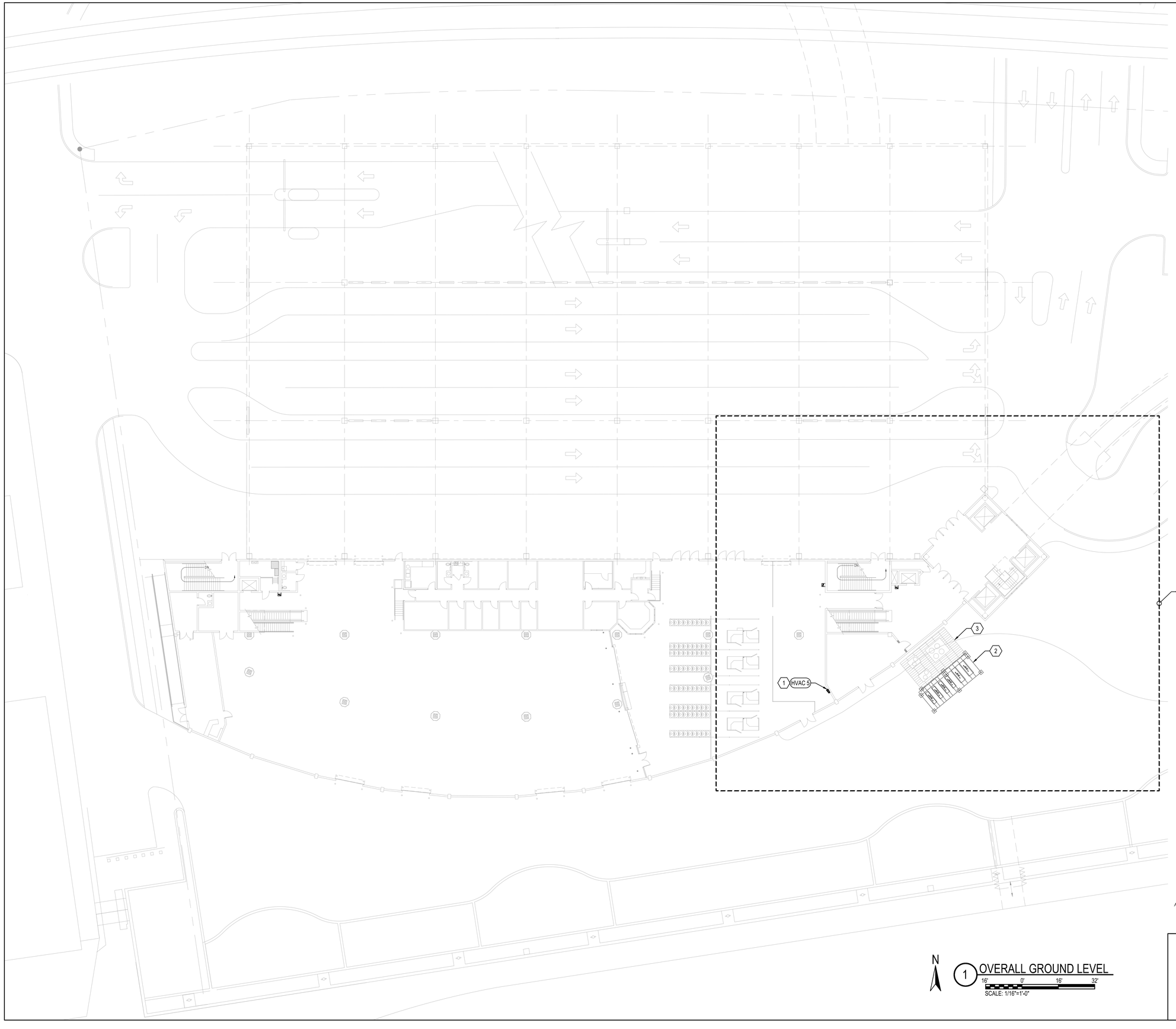
Mobile, AL

SHEET TITLE:
ELECTRICAL LEGEND AND SPECIFICATIONS

SCALE: AS NOTED	DESIGNED BY: AWM	SHEET NO.
PROJECT NO: 22053	CHECKED BY: AWM	E1.0
PLOT SCALE:	FILE NO.:	

SHEET NOTES

1. APPROXIMATE LOCATION OF EXISTING PANEL HVAC5 ON THE GROUND LEVEL.
2. APPROXIMATE LOCATION OF NEW RECTIFIER PLATFORM ON THE SECOND LEVEL. FIELD VERIFY WITH STRUCTURAL CONTRACTOR PRIOR TO BEGINNING ANY WORK.
3. EXISTING MECHANICAL PLATFORM TO REMAIN. FIELD VERIFY WITH STRUCTURAL CONTRACTOR PRIOR TO BEGINNING ANY WORK.
4. SEE ENLARGED PLAN FOR MORE INFORMATION FOR THIS AREA OF WORK. SEE SHEET E3.0 FOR MORE INFORMATION.



1 OVERALL GROUND LEVEL

16' 0' 16' 32'

SCALE: 1/16"=1'-0"

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DELL CONSULTING PROJECT: 21-130

ALABAMA LICENSED No. 25105 PROFESSIONAL ENGINEER ANDREW W. MAURIN

9-8-2022

REVISION	DATE	DESCRIPTION
	09/30/2022	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
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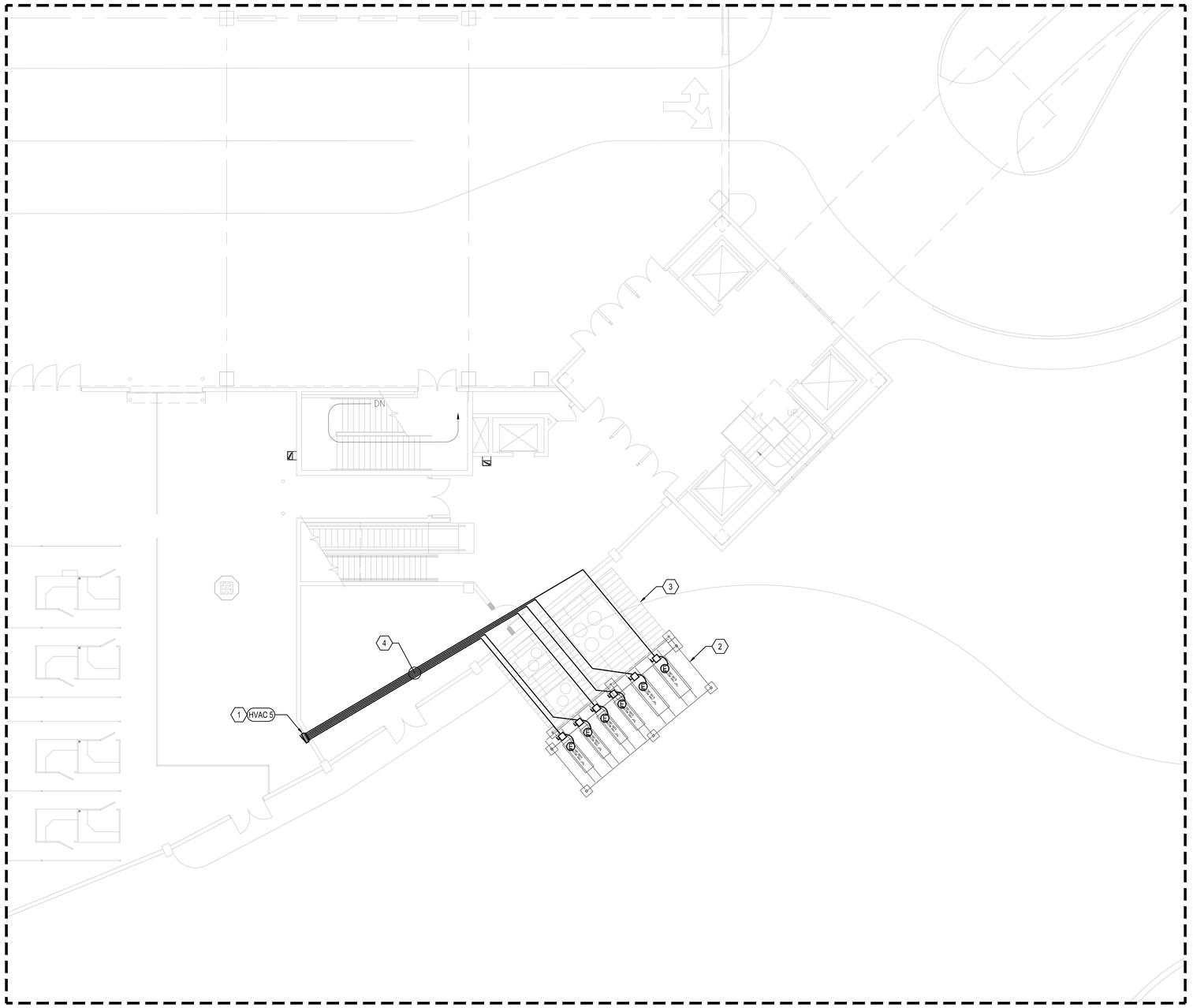
City of Mobile Gulf Quest / Mobile

Mobile Cruise Terminal - Dock Improvements

Mobile, AL

SHEET TITLE:
OVERALL GROUND LEVEL ELECTRICAL PLAN

SCALE: AS NOTED	DESIGNED BY: AWM	SHEET NO.	E2.0
PROJECT NO: 22053	CHECKED BY: AWM		
PLOT SCALE:	FILE NO.:		



PANELBOARD SCHEDULE

MARK: EXISTING HVAC 5

CKT #	LOAD DESCRIPTION	P	BREAKER TRIP	PHASE (kVA) A	PHASE (kVA) B	PHASE (kVA) C	PHASE (kVA) A	PHASE (kVA) B	PHASE (kVA) C	BREAKER TRIP	P	LOAD DESCRIPTION	CKT #
1				11.7			21.8						2
3	AHU-2	3	45		11.7			21.8		80	3	OAAHU-1	4
5						11.7			21.8				6
7				11.7			2.0						8
9	AHU-3	3	45		11.7			2.0		15	3	OACU-1	10
11						11.7			2.0				12
13				5.9						20	1	SPARE	14
15	CU-2	3	25		5.9					20	1	SPARE	16
17						5.9				20	1	SPARE	18
19				5.9						20	1	SPARE	20
21	CU-3	3	25		5.9					20	1	SPARE	22
23						5.9				20	1	SPARE	24
25	SPARE	1	20							20	1	SPARE	26
27	SPARE	1	20							20	1	SPARE	28
29	SPARE	1	20							20	1	SPARE	30
31	SPARE	1	20							20	1	SPARE	32
33	SPARE	1	20							20	1	SPARE	34
35	SPARE	1	20							20	1	SPARE	36
37	SPARE	1	20							20	1	SPARE	38
39	SPARE	1	20							20	1	SPARE	40
41	SPARE	1	20							20	1	SPARE	42
				35.2	35.2	35.2	23.8	23.8	23.8				

TOTAL (kVA) ØA 59.0 ØB 59.0 ØC 59.0 HIGH PHASE (AMPS) 213.0

TOTAL CONNECTED LOAD (kVA) 177.0 TOTAL LOAD (AMPS) 212.9

CREATE A DIRECTORY TO INDICATE INSTALLED LOADS. INDICATE LOAD TYPE (REC, LTG, AHU-1, ETC.) AND ROOM NUMBERS SERVED FOR EVERY BRANCH CIRCUIT.

PANELBOARD SCHEDULE

MARK: MODIFIED HVAC 5

CKT #	LOAD DESCRIPTION	P	BREAKER TRIP	PHASE (kVA) A	PHASE (kVA) B	PHASE (kVA) C	PHASE (kVA) A	PHASE (kVA) B	PHASE (kVA) C	BREAKER TRIP	P	LOAD DESCRIPTION	CKT #
1				11.7			21.8						2
3	AHU-2	3	45		11.7			21.8		80	3	OAAHU-1	4
5						11.7			21.8				6
7				11.7									8
9	AHU-3	3	45		11.7					15	3	OACU-1	10
11						11.7							12
13										20	1	SPARE	14
15	CU-2	3	25							20	1	SPARE	16
17										20	1	SPARE	18
19										20	1	SPARE	20
21	CU-3	3	25							20	1	SPARE	22
23										20	1	SPARE	24
25				4.4			4.4						26
27	CATHODIC PROTECTION	3	30		4.4			4.4		30	3	CATHODIC PROTECTION	28
29						4.4			4.4				30
31				2.2			2.2						32
33	CATHODIC PROTECTION	3	20		2.2			2.2		20	3	CATHODIC PROTECTION	34
35						2.2			2.2				36
37				2.2			2.2						38
39	CATHODIC PROTECTION	3	20		2.2			2.2		20	3	CATHODIC PROTECTION	40
41						2.2			2.2				42
				32.2	32.2	32.2	30.6	30.6	30.6				

TOTAL (kVA) ØA 62.8 ØB 62.8 ØC 62.8 HIGH PHASE (AMPS) 226.7

TOTAL CONNECTED LOAD (kVA) 188.4 TOTAL LOAD (AMPS) 226.6

CREATE A DIRECTORY TO INDICATE INSTALLED LOADS. INDICATE LOAD TYPE (REC, LTG, AHU-1, ETC.) AND ROOM NUMBERS SERVED FOR EVERY BRANCH CIRCUIT.

SHEET NOTES

1. APPROXIMATE LOCATION OF EXISTING PANEL HVAC5 ON THE GROUND LEVEL. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL (2) 30/3 BREAKERS AND (4) 20/3 BREAKERS FOR THE NEW RECTIFIERS. THE CONTRACTOR SHALL CONFIRM, RECORD AND SUBMIT FOR THE RECORD THE FULL LOAD OF THE PANEL UPON COMPLETION OF THE PROJECT.
2. APPROXIMATE LOCATION OF NEW RECTIFIER PLATFORM ON THE SECOND LEVEL. FIELD VERIFY WITH STRUCTURAL CONTRACTOR PRIOR TO BEGINNING ANY WORK.
3. EXISTING MECHANICAL PLATFORM TO REMAIN. FIELD VERIFY WITH STRUCTURAL CONTRACTOR PRIOR TO BEGINNING ANY WORK.
4. THE ELECTRICAL CONTRACTOR IS TO PROVIDE AND INSTALL (6) 1" CONDUITS FROM PANEL HVAC5 UP THE WALL AND OVER TO THE EXTERIOR WALL AT THE PLATFORM. THE CONTRACTOR SHALL THEN PENETRATE THE WALL, LB ON THE EXTERIOR WITH 1" RIGID ALUMINUM CONDUITS ACROSS THE PLAT FORM OVER TO THE RECTIFIERS. COORDINATE ROUTING OF CONDUIT WITH EXISTING SYSTEMS TO AVOID CONFLICT. ALL WALL PENETRATIONS ARE TO BE COMPLETELY SEALED WITH MORTAR AND SMOOTHED TO MATCH THE EXISTING FINISH.
   1. (2) 1" CONDUITS SHALL CONTAIN 4#6, #10G IN EACH CONDUIT FROM A NEW 30/3 BREAKER (14KAIC) IN PANEL HVAC5 TO A NEW 60 AMP NEMA 3R DISCONNECT.
   2. (4) 1" CONDUITS SHALL CONTAIN 4#10, #10G IN EACH CONDUIT FROM A NEW 20/3 BREAKER (14KAIC) IN PANEL HVAC5 TO A NEW 30 AMP NEMA 3R DISCONNECT.

N

1 ENLARGED GROUND LEVEL AREA OF WORK

8' 0' 8' 16'

SCALE: 1/8"=1'-0"

dell consulting
MEP Engineering
Andrew W. Maurin 25105
Alabama Certificate Number CA-4146-E
813 Downtowner Blvd, Ste. D
Mobile, Alabama 36609
P: 251-316-0015 F: 850-332-6629
DELL CONSULTING PROJECT: 21-130

ALABAMA LICENSED No. 25105 PROFESSIONAL ENGINEER ANDREW W. MAURIN
9-9-2022

REVISION	DATE	DESCRIPTION
	09/30/2022	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
Structural Engineers
1614 GOVERNMENT STREET MOBILE, ALABAMA 36604-1102
PHONE (251)473-8354 FAX (251)473-8356

City of Mobile Gulf Quest / Mobile

Mobile Cruise Terminal - Dock Improvements

Mobile, AL

SHEET TITLE:
ENLARGED GROUND LEVEL AREA OF WORK

SCALE: AS NOTED	DESIGNED BY: AWM	SHEET NO.	E3.0
PROJECT NO: 22053	CHECKED BY: AWM		
PLOT SCALE:	FILE NO.:		

STRUCTURAL GENERAL NOTES

APPLICABLE CODES

2015 INTERNATIONAL BUILDING CODE

ASCE 7-10 – MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES

AISC 14TH EDITION – STEEL CONSTRUCTION MANUAL.

DESIGN GRAVITY LOADS

PLATFORM DEAD LOAD = 10 PSF

GRATED PLATFORM LIVE LOAD = 60 PSF

EQUIPMENT WEIGHT = AS NOTED

WIND LOADS (ASCE 7-10)

WIND RISK CATEGORY = II

WIND SPEED Vult = 159 MPH Vasd = 123 MPH

WIND EXPOSURE CATEGORY = "C"

GENERAL:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CORROSION EQUIPMENT AND ELECTRICAL SHOP DRAWINGS AND SPECIFICATIONS.
2. ALL DIMENSIONS, ELEVATIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. A RECORD SET OF APPROVED SHOP DRAWINGS SHALL BE KEPT IN THE FIELD BY THE GENERAL CONTRACTOR.
4. VERIFY ALL EQUIPMENT WEIGHTS AND LOCATIONS. NOTIFY ENGINEER IF MAXIMUM OPERATING WEIGHT EXCEEDS WEIGHT SHOWN ON DRAWINGS.
5. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY BRACING, SHORING, GUYING, ETC. AND OTHER METHODS TO PREVENT EXCESSIVE CONSTRUCTION STRESSES. THESE PROVISIONS ARE TO REMAIN IN PLACE UNTIL SUFFICIENT PERMANENT MEMBERS ARE CONSTRUCTED TO INSURE THE SAFETY OF THE STRUCTURE.
6. UNLESS OTHERWISE NOTED, DETAILS SHOWN ON ANY DRAWING ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

STEEL:

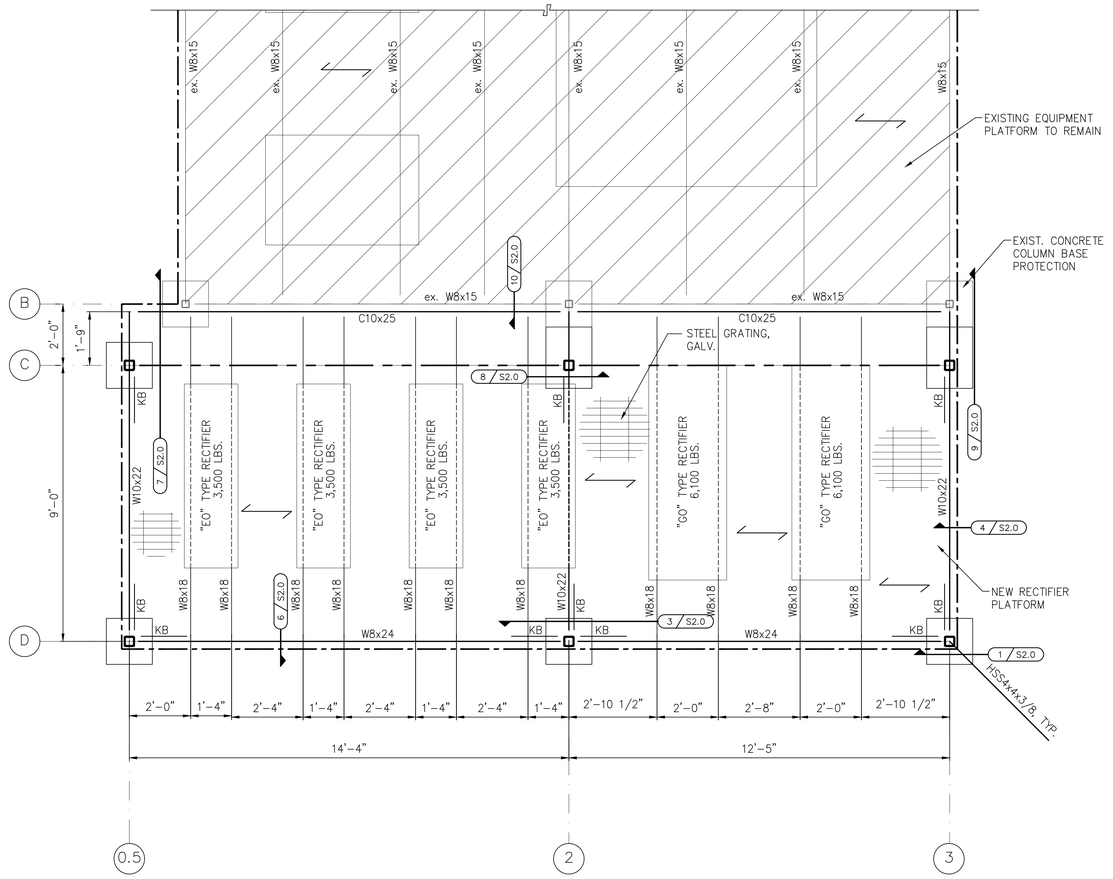
1. STRUCTURAL STEEL SHALL MEET THE LATEST AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
2. ALL WIDE FLANGE SHAPES TO MEET ASTM A992 – fy = 50ksi; ALL HSS TO MEET ASTM A500 GR. B – fy = 42ksi. ALL OTHER SHAPES, PLATES, ANGLES, ETC. TO MEET ASTM A36 – fy = 36ksi.
3. ALL BOLTS TO MEET ASTM A325 HIGH STRENGTH, WITH WASHERS AS REQUIRED, (EXCEPT ANCHOR BOLTS TO MEET ASTM F1554 GRADE 55).
4. ALL BEAMS AND DIAGONAL BRACING SHALL NOT BE RELEASED FROM THE HOIST CABLE UNTIL THE MEMBER IS SECURED BY A MINIMUM OF TWO BOLTS PER END.
5. GRATING SHALL BE FASTENED TO THE SUPPORTING STRUCTURE WITH MANUFACTURED CLIPS. WELDED TYPE ATTACHMENTS SHALL NOT BE ALLOWED.
6. ALL GRATING SHALL HAVE BANDED EDGES.
7. WELDING SHALL CONFORM TO THE STANDARDS SET FORTH IN AWS D1.0 PUBLICATION "CODE FOR WELDING IN BUILDING CONSTRUCTION".
8. ALL SHOP CONNECTIONS TO HAVE 1/4" FILLET WELDS MINIMUM UNLESS NOTED AS BOLTED CONNECTIONS.
9. CONNECTIONS OF MATERIAL IN THE FIELD SHALL BE WITH A 1/4" FILLET WELD MINIMUM UNLESS NOTED OTHERWISE. MATERIAL SHOWN TOUCHING SHALL BE CONNECTED WITH 1/4" CONTINUOUS FILLET WELDS UNLESS NOTED OTHERWISE.
10. ALL FIELD WELDS TO BE WITH E70XX ELECTRODES. BRUSH AND CLEAN ALL FIELD WELDS AND COAT WITH A COLD-GALVANIZING REPAIR PRIMER.
11. ALL ERECTION DRAWINGS SHALL SHOW ALL FIELD WELDS REQUIRED.
12. ELEVATIONS FOR TOP OF STEEL ARE NOTED ON DRAWINGS. BEAMS FRAME FLUSH AT TOP UNLESS NOTED (+/-).
13. TYPICAL HANDRAIL CONSTRUCTION SHALL BE 42" HIGH, 2-RUN HANDRAIL MADE WITH 1 1/4" DIA. SCHEDULE 40 PIPE. WELD ALL JOINTS CONTINUOUS AND GRIND SMOOTH. ALL POSTS ARE 5'-0" o.c. MAXIMUM.
14. ALL STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
15. NO OPENINGS TO BE PLACED IN BEAM WEBS OR FLANGES WITHOUT ENGINEER'S APPROVAL.
16. THE STEEL FRAME IS "NON-SELF SUPPORTING". ADEQUATE TEMPORARY SUPPORT MUST BE PROVIDED BY THE CONTRACTOR UNTIL REQUIRED CONNECTIONS OR ELEMENTS ARE IN PLACE.
17. THE FOLLOWING MINIMUM INSPECTION SHALL BE PROVIDED FOR FIELD WELDS:
    a. FIELD WELDED CONNECTIONS – 100% VISUAL INSPECTION
    b. WELDS OF STRUCTURAL TUBE OR ANGLE BRACING – 100% VISUAL INSPECTION

PERIODIC STRUCTURAL OBSERVATIONS

STRUCTURAL OBSERVATIONS DURING CONSTRUCTION WILL BE MADE BY THE STRUCTURAL ENGINEER IN ACCORDANCE WITH THE SCHEDULE STATED BELOW AND AT OTHER TIMES AS DEEMED APPROPRIATE. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER WHEN THE PROJECT HAS PROGRESSED TO THE POINT WHERE THE ITEMS TO BE OBSERVED ARE IN PLACE AND COMPLETE. FAILURE TO NOTIFY MAY REQUIRE REMOVAL OF COMPLETE CONSTRUCTION IN ORDER FOR THE SCHEDULED OBSERVATIONS.

SCHEDULE OF STRUCTURAL OBSERVATIONS:

1. UPON COMPLETION OF STEEL ERECTION



NORTH

RECTIFIER PLATFORM FRAMING PLAN

SCALE: 1/2"=1'-0"
T.O.S. = +7'-8" U.N.O. (FIELD VERIFY)

NEW EQUIPMENT PLATFORM GRATING

1 1/4"x3/16" TYPE GW GALVANIZED STEEL BAR GRATING. ATTACH USING BEAM CLAMPS PER MANUFACTURERS RECOMMENDATIONS.

LEGEND

- HANDRAIL WITH TOE PLATE
- KB — L3x3x1/4 KNEE BRACE
- GRATING SPAN DIRECTION
- L3x3x1/4 ANGLE BRACING

GRAPHIC SCALE

SCALE 1/2" = 1'-0"

12" 0 1 2 3 4 5 FT

ALABAMA LICENSED No. 12749 PROFESSIONAL ENGINEER MARC STEVEN BARTER

09/30/22

REVISION	DATE	DESCRIPTION
0	09.30.22	ISSUED FOR CONSTRUCTION

BARTER & ASSOCIATES, INC.
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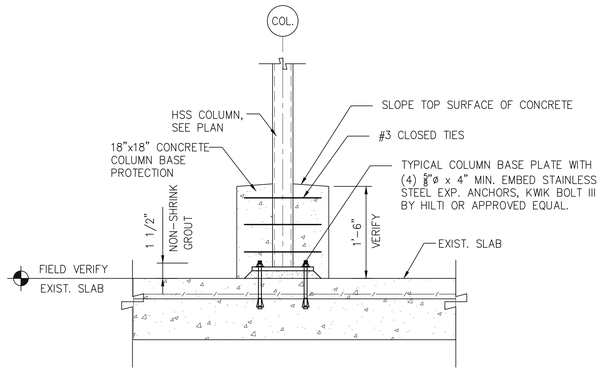
City of Mobile Gulf Quest / Mobile

Mobile Cruise Terminal - Dock Improvements

Mobile, AL

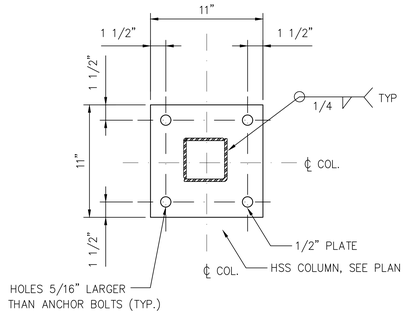
SHEET TITLE: **RECTIFIER PLATFORM FRAMING PLAN**

SCALE: AS NOTED		DESIGNED BY: SGM	SHEET NO. S1.1
PROJECT NO: 22053		CHECKED BY: MSB	
PLOT SCALE:		FILE NO.:	



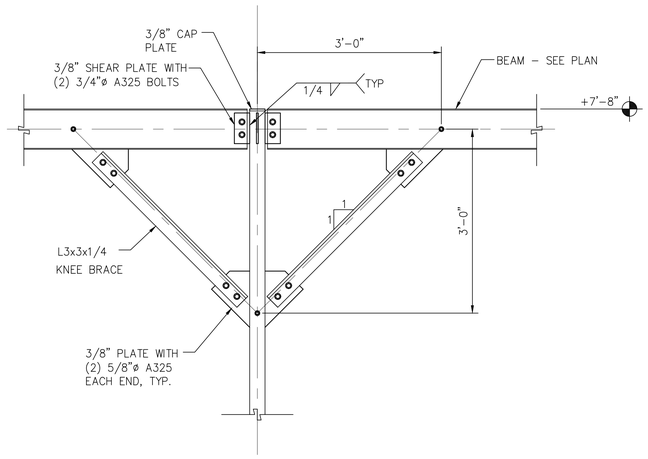
TYPICAL COLUMN BASE DETAIL

SECTION 1 / S2.0
NOT TO SCALE



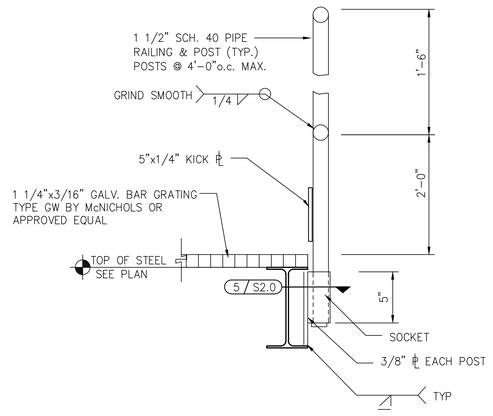
TYPICAL COLUMN BASE PLATE

DETAIL 2 / S2.0
NOT TO SCALE



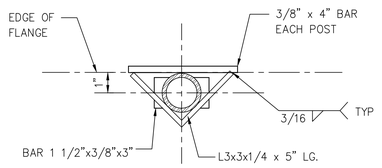
TYPICAL KNEE BRACE DETAIL

SECTION 3 / S2.0
SCALE: 1"=1'-0"



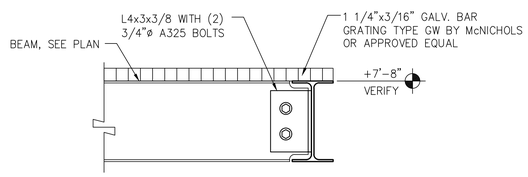
SECTION AT HANDRAIL

SECTION 4 / S2.0
NOT TO SCALE



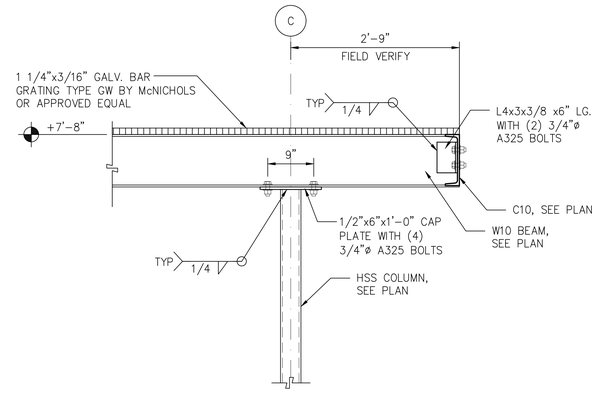
"A–A" SOCKET DETAIL

SECTION 5 / S2.0
NOT TO SCALE



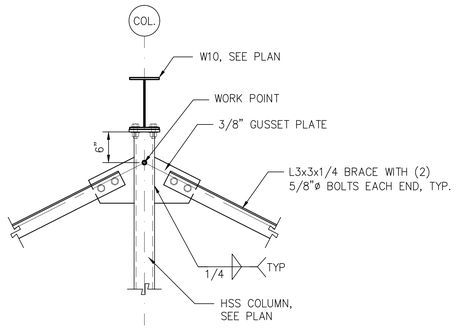
TYPICAL BEAM–TO–BEAM CONNECTION

SECTION 6 / S2.0
NOT TO SCALE

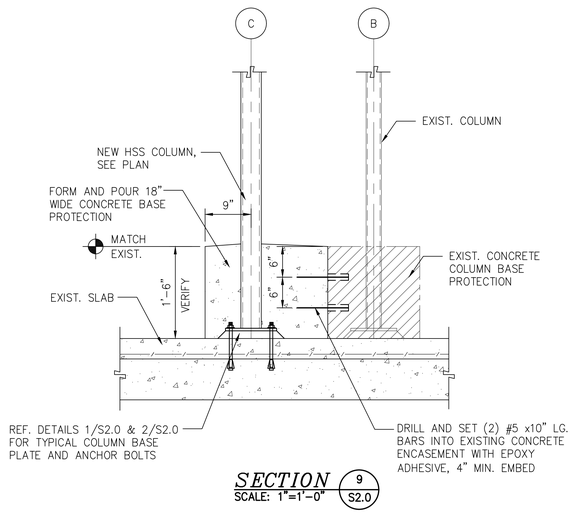


TYPICAL SECTION @ CANTILEVER

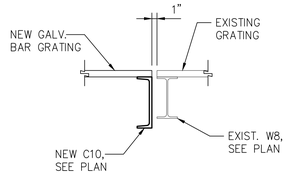
SECTION 7 / S2.0
SCALE: 1"=1'-0"



SECTION 8 / S2.0
SCALE: 1"=1'-0"



SECTION 9 / S2.0
SCALE: 1"=1'-0"



SECTION 10 / S2.0
SCALE: 1"=1'-0"

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Mobile, AL

ALABAMA LICENSED No. 12749 PROFESSIONAL ENGINEER MARC STEVEN BARTER
09/30/22

SHEET TITLE: TYPICAL RECTIFIER PLATFORM DETAILS

SCALE: AS NOTED	DESIGNED BY: SGM	SHEET NO.	S2.0
PROJECT NO: 22053	CHECKED BY: MSB		
PLOT SCALE:	FILE NO.:		