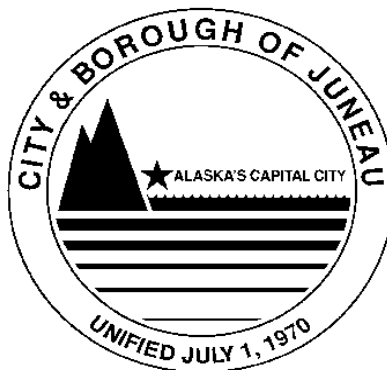


DOWNTOWN WATERFRONT CORROSION CONTROL REPAIRS

Contract No. E16-164

File No. 1864a



ENGINEERING DEPARTMENT

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END OF SECTION

SECTION 00030 NOTICE INVITING BIDS

OBTAINING CONTRACT DOCUMENTS. The Contract Documents are entitled:

**Downtown Waterfront Facilities Corrosion Control Project
Contract No. E16-164**

The Contract Documents may be obtained at the City & Borough of Juneau (CBJ) Engineering Department, 3rd Floor Marine View Center, upon payment of \$35.00 (non-refundable) for each set of Contract Documents (including Technical Specifications and Drawings) or may be downloaded for free at the CBJ Engineering Department webpage at: www.juneau.org/engineering

PRE-BID CONFERENCE. Prospective Bidders are encouraged to attend a pre-Bid conference to discuss the proposed WORK, which will be conducted by the OWNER, at 10:00 a.m. on February 8, 2016, in the CBJ Engineering Department Conference Room, 3rd Floor, Marine View Center. The object of the conference is to acquaint Bidders with the project and bid documents.

DESCRIPTION OF WORK.

Base Bid:

This Project consists of all activities necessary to provide the Downtown Waterfront Corrosion Control Repairs as shown in the contract documents. The WORK includes in-place surface preparation and jacketing of H-piles and galvanic protection systems.

Alternate No. 1:

Provide all labor, materials, tools, and equipment necessary to install anode sleds and related hardware, as shown in the Drawings and as described in Section 13112 – Sheet Pile Galvanic Anode Cathodic Protection. The WORK also includes diving and containment of debris and dust generated during the installation.

COMPLETION OF WORK. The WORK must be completed by

<u>Work Description</u>	<u>Completion Date</u>
Substantial Completiong	December 14, 2016
Final Completion	December 31, 2016

DEADLINE FOR BIDS: Sealed bids must be received by the Purchasing Division **prior to 2:00 p.m., Alaska Time on February 17, 2016**, or such later time as may be announced by addendum at any time prior to the deadline. Bids will be time and date stamped by the Purchasing Division, which will establish the official time of receipt of bids. Bids will be opened immediately thereafter in the Assembly Chambers of the Municipal Building, 155 S. Seward Street, unless otherwise specified.

Bid documents delivered in person or by courier service must be delivered to:

PHYSICAL LOCATION:

City and Borough of Juneau, Purchasing Division
105 Municipal Way, Room 300
Juneau, AK 99801

SECTION 00030 NOTICE INVITING BIDS

Bid documents delivered by the U.S. Postal Service must be mailed to:

MAILING ADDRESS:

City and Borough of Juneau, Purchasing Division
155 South Seward Street
Juneau, AK 99801

Please affix the label below to outer envelope in the lower left hand corner.

IMPORTANT NOTICE TO BIDDER		
To submit your Bid:		
1. Print your company name and address on the upper left corner of your envelope.		
2. Complete this label and place it on the lower left corner of your envelope.		
S E A L E D	BID NUMBER: <u>E16-164</u>	B I D
	SUBJECT: <u>DOWNTOWN WATERFRONT</u> <u>CORROSION CONTROL</u> <u>REPAIRS</u>	
	DEADLINE DATE: <u>PRIOR TO 2:00PM ALASKA</u> <u>TIME</u>	

Mailing/delivery times to Alaska may take longer than other areas of the U.S. Late bids will not be accepted and will be returned.

SITE OF WORK. The site of the WORK RUNS FROM THE Marine Park Seawall to the Downtown Parking Garage and Library in downtown Juneau, Alaska.

BIDDING, CONTRACT, or TECHNICAL QUESTIONS. All communications relative to this WORK, prior to opening Bids, shall be directed to the following:

Greg Smith, Contract Administrator
CBJ Engineering Department, 3rd Floor, Marine View Center
Email: greg.smith@juneau.org
Telephone: (907) 586-0873
Fax: (907) 586-4530

BID SECURITY. Each Bid shall be accompanied by a certified or cashier's check or Bid Bond, in the amount of 5% percent of the Bid, payable to the City and Borough of Juneau, Alaska, as a guarantee that the Bidder, if its Bid is accepted, will promptly execute the Agreement. A Bid shall not be considered unless one of the forms of Bidder's security is enclosed with it.

SECTION 00030 NOTICE INVITING BIDS

CONTRACTOR'S LICENSE. All contractors are required to have a current Alaska Contractor's License, prior to submitting a Bid, and a current Alaska Business License prior to award.

BID TO REMAIN OPEN. The Bidder shall guarantee the Bid for a period of 60 Days from the date of Bid opening. Any component of the Bid including alternate may be awarded anytime during the 60 Days.

OWNER'S RIGHTS RESERVED. The OWNER reserves the right to reject any or all Bids, to waive any informality in a Bid, and to make award to the lowest responsive, responsible Bidder as it may best serve the interests of the OWNER.

OWNER: City and Borough of Juneau

By: Greg Smith
Greg Smith, Contract Administrator

1/21/2016
Date

END OF SECTION

SECTION 00100 - INSTRUCTIONS TO BIDDERS

1.0 DEFINED TERMS. Terms used in these Instructions to Bidders and the Notice Inviting Bids, which are defined in the General Conditions, have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to the OWNER, as distinct from a sub-bidder, who submits a Bid to a Bidder.

2.0 INTERPRETATIONS AND ADDENDA.

- A. **INTERPRETATIONS.** All questions about the meaning or intent of the Contract Documents are to be directed to the Engineering Contracts Administrator. Interpretations or clarifications considered necessary by the Engineering Contracts Administrator in response to such questions will be issued by Addendum, mailed, faxed, or delivered to all parties recorded by the Engineering Contracts Administrator, or OWNER, as having received the Contract Documents. Questions received less than seven Days prior to the Deadline for Bids may not be answered. Only questions answered by formal written Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect.
- B. **ADDENDA.** Addenda may be issued to modify the Contract Documents as deemed advisable by the OWNER. Addenda may be faxed or, if addendum format warrants, addenda may be posted to the CBJ Engineering Department website. In any event, notification of addendum issuance will be faxed to planholders. Hard copies are available upon request. The OWNER will make all reasonable attempts to ensure that all planholders receive notification of Addenda, however, it is strongly recommended by the OWNER that bidders independently confirm the contents, number, and dates of each Addendum prior to submitting a Bid.

3.0 FAIR COMPETITION. More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If the OWNER believes that any Bidder is interested in more than one Bid for the WORK contemplated, all Bids in which such Bidder is interested will be rejected. If the OWNER believes that collusion exists among the Bidders, all Bids will be rejected.

4.0 RESPONSIBILITY OF BIDDERS. Only responsive Bids from responsible Bidders will be considered. A Bid submitted by a Bidder determined to be not responsible may be rejected. The OWNER may find a bidder to be not responsible for any one of the following reasons, but is not limited in its responsibility analysis to the following factors:

- A. Evidence of bid rigging or collusion;
- B. Fraud or dishonesty in the performance of previous contracts;
- C. Record of integrity;
- D. More than one bid for the same work from an individual, firm, or corporation under the same or different name;
- E. Unsatisfactory performance on previous or current contracts;
- F. Failure to pay, or satisfactorily settle, all bills due for labor and material on previous contracts;

SECTION 00100 - INSTRUCTIONS TO BIDDERS

- G. Uncompleted work that, in the judgment of the OWNER, might hinder or prevent the bidder's prompt completion of additional work, if awarded;
- H. Failure to reimburse the OWNER for monies owed on any previous contracts;
- I. Default under previous contracts;
- J. Failure to comply with any qualification requirements of the OWNER; special standards for responsibility, if applicable, will be specified. These special standards establish minimum standards or experience required for a responsible Bidder on a specific contract;
- K. Engaging in any activity that constitutes a cause for debarment or suspension under the CBJ Procurement Code 53.50 or submitting a bid during a period of debarment;
- L. Lack of skill, ability, financial resources, or equipment required to perform the contract; or
- M. Lack of legal capacity to contract.
- N. Bidders must be registered as required by law and in good standing for all amounts owed to the OWNER per Paragraph 21.0 of this Section.
- O. Failure to submit a complete Subcontractor Report as required in section Section 00360 – Subcontractor Report.

Nothing contained in this section deprives the OWNER of its discretion in determining the lowest responsible bidder. Before a Bid is considered for award, a Bidder may be requested to submit information documenting its ability and competency to perform the WORK, according to general standards of responsibility and any special standards which may apply. It is Bidder's responsibility to submit sufficient, relevant, and adequate information. OWNER will make its determination of responsibility and has no obligation to request clarification or supplementary information.

5.0 NON-RESPONSIVE BIDS. Only responsive Bids will be considered. Bids may be considered non-responsive and may be rejected. Some of the reasons a Bid may be rejected for being non-responsive are:

- A. If a Bid is received by the CBJ Purchasing Division after the Deadline for Bids.
- B. If the Bid is on a form other than that furnished by the OWNER, or legible copies thereof; or if the form is altered or any part thereof is detached; or if the Bid is improperly signed.
- C. If there are unauthorized additions, conditional or alternate Bids, or irregularities of any kind which may tend to make the bid incomplete, indefinite, ambiguous as to its meaning, or in conflict with the OWNER's Bid document.
- D. If the Bidder adds any unauthorized conditions, limitations, or provisions reserving the right to accept or reject any award, or to enter into a contract pursuant to an award. This does not exclude a Bid limiting the maximum gross amount of awards acceptable to any one Bidder at any one Bid opening, provided that any selection of awards will be made by the OWNER.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

- E. If the Bid does not contain a Unit Price for each pay item listed, except in the case of authorized alternate pay items.
- F. If the Bidder has not acknowledged receipt of each Addendum.
- G. If the Bidder fails to furnish an acceptable Bid guaranty with the Bid.
- H. If any of the Unit Prices Bid are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the OWNER.
- I. If a Bid modification does not conform to Article 15.0 of this Section.

6.0 BIDDER'S EXAMINATION OF CONTRACT DOCUMENTS AND SITE. It is the responsibility of each Bidder before submitting a Bid:

- A. To examine thoroughly the Contract Documents, and other related data identified in the Bidding documents (including "technical data" referred to below):
 - 1. To visit the site to become familiar with and to satisfy the Bidder as to the general and local conditions that may affect cost, progress, or performance, of the WORK,
 - 2. To consider federal, state and local laws and regulations that may affect cost, progress, or performance of the WORK,
 - 3. To study and carefully correlate the Bidder's observations with the Contract Documents, and other related data; and
 - 4. To notify the ENGINEER of all conflicts, errors, or discrepancies in or between the Contract Documents and such other related data.

7.0 REFERENCE IS MADE TO THE SUPPLEMENTARY GENERAL CONDITIONS FOR IDENTIFICATION OF:

- A. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by the Engineer of Record in the preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such reports, however, the interpretation of such technical data, including any interpolation or extrapolation thereof, together with non-technical data, interpretations, and opinions contained therein or the completeness thereof is the responsibility of the Bidder.
- B. Those Drawings of physical conditions in or relating to existing surface and subsurface conditions (except underground utilities) which are at or contiguous to the site have been utilized by the Engineer of Record in the preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such Drawings, however, the interpretation of such technical data, including any interpolation or extrapolation thereof, together with nontechnical data, interpretations, and opinions contained in such Drawings or the completeness thereof is the responsibility of the Bidder.
- C. Copies of such reports and Drawings will be made available by the OWNER to any Bidder on request if said reports and Drawings are not bound herein. Those reports and Drawings are not part of the Contract Documents, but the technical data contained therein upon which the Bidder is entitled to rely, as provided in Paragraph SGC-4.2 of the Supplementary General Conditions, are incorporated herein by reference.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

- D. Information and data reflected in the Contract Documents with respect to underground utilities at or contiguous to the site is based upon information and data furnished to the OWNER and the Engineer of Record by the owners of such underground utilities or others, and the OWNER does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary General Conditions, or in Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements.
- E. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, underground utilities and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.2, 4.3, and 4.4 of the General Conditions.
- F. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress, or performance of the WORK and which the Bidder deems necessary to determine its Bid for performing the WORK in accordance with the time, price, and other terms and conditions of the Contract Documents.
- G. On request in advance, the OWNER will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and shall clean up and restore the site to its former condition upon completion of such explorations.
- H. The lands upon which the WORK is to be performed, rights-of-way and easements for access thereto and other lands designated for use by the CONTRACTOR in performing the WORK are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the OWNER unless otherwise provided in the Contract Documents.
- I. The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of Article 6.0, "Bidder's Examination of Contract Documents and Site" herein, that without exception the Bid is premised upon performing the WORK required by the Contract Documents and such means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the WORK.

8.0 BID FORM.

- A. The Bid shall be made on the Bid Schedule(s) bound herein, or on the yellow Bid packet provided, or on legible and complete copies thereof, and shall contain the following: Sections 00300, 00310, the required Bid Security, and any other documents required in Section 00300 – Bid.
- B. All blanks on the Bid Form and Bid Schedule must be completed in ink or typed.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

- C. Bids by corporations must be executed in the corporate name by the president, a vice-president (or other corporate officer). The corporate address and state of incorporation must appear below the signature.
- D. Bids by partnerships must be executed in the partnership name and be signed by a managing partner, and the official address of the partnership must appear below the signature.
- E. The Bidder's Bid must be signed. All names must be printed or typed below the signature.
- F. The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form. Failure to acknowledge Addenda may render Bid non-responsive and may cause its rejection.
- G. The address to which communications regarding the Bid are to be directed must be shown.

9.0 QUANTITIES OF WORK. The quantities of WORK, or material, stated in Unit Price items of the Bid are supplied only to give an indication of the general scope of the WORK; the OWNER does not expressly or by implication agree that the actual amount of WORK, or material, will correspond therewith, and reserves the right after award to increase or decrease the amount of any Unit Price item of the WORK by an amount up to and including 25 percent of any Bid item, without a change in the Unit Price, and shall include the right to delete any Bid item in its entirety, or to add additional Bid items up to and including an aggregate total amount not to exceed 25 percent of the Contract Price (see Section 00700 - General Conditions, Article 10 Changes In the WORK).

10.0 SUBSTITUTE OR "OR-EQUAL" ITEMS. The procedure for the submittal of substitute or "or-equal" products is specified in Section 01300 – Contractor Submittals.

11.0 SUBMISSION OF BIDS. The Bid shall be delivered by the time and to the place stipulated in Section 00030 - Notice Inviting Bids. It is the Bidder's sole responsibility to see that its Bid is received in proper time. Oral, telegraphic, emailed, or faxed Bids will not be considered. The envelope enclosing the sealed Bids shall be plainly marked in the upper left-hand corner with the name and address of the Bidder and shall also include the label included in Section 00030 – Notice Inviting Bids. The Bid Security shall be enclosed in the same envelope with the Bid

12.0 BID SECURITY, BONDS, AND INSURANCE. Each Bid shall be accompanied by a certified, or cashier's check, or approved Bid Bond in an amount of at least 5 percent of the total Bid price. The "total Bid price" is the amount of the Base Bid, plus the amount of alternate Bids, if any, which total to the maximum amount for which the CONTRACT could be awarded. Said check or Bond shall be made payable to the OWNER and shall be given as a guarantee that the Bidder, if offered the WORK, will enter into an Agreement with the OWNER, and will furnish the necessary insurance certificates, Payment Bond, and Performance Bond; each of said Bonds, if required, and insurance amounts shall be as stated in the Supplementary General Conditions. In case of refusal or failure to enter into said Agreement, the check or Bid Bond, as the case may be, may be forfeited to the OWNER. If the Bidder elects to furnish a Bid Bond as its Bid security, the Bidder shall use the Bid Bond form bound herein, or one conforming substantially to it in form. Bid Bonds must be accompanied by a legible Power of Attorney.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

13.0 RETURN OF BID SECURITY. The OWNER will return all Bid security checks (certified or cashier's) accompanying such of the Bids as are not considered in making the award. All other Bid securities will be held until the Agreement has been executed. Following execution of the Agreement, all other Bid security checks will be returned to the respective Bidders whose Bids they accompanied and Bid security bonds will be appropriately discarded.

14.0 DISCREPANCIES IN BIDS. In the event there is more than one Pay Item in a Bid Schedule, the Bidder shall furnish a price for all Pay Items in the schedule, and failure to do so may render the Bid non-responsive and cause its rejection. In the event there are Unit Price Pay Items in a Bid Schedule and the "amount" indicated for a Unit Price Bid Item does not equal the product of the Unit Price and quantity, the Unit Price shall govern and the amount will be corrected accordingly, and the Bidder shall be bound by said correction. In the event there is more than one Pay Item in a Bid Schedule and the total indicated for the schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the schedule will be corrected accordingly, and the Bidder shall be bound by said correction.

15.0 BID MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS.

- A. Any bidder may deliver a modification to a bid in person, by mail or fax (907-586-4561), provided that such modification is received by the Purchasing Division no later than the deadline for bids. Modifications will be time and date stamped by the Purchasing Division, which will establish the official time of receipt of the modification. The modification must not reveal the bid price but should be in the form of an addition or subtraction or other modification so that the final prices will not be known until the sealed bid is opened.

The Bid modifications shall be provided on the **Bid Modification Form** located at the end of this Section. Submittal of any other form by the vendor may deem the modification unacceptable by the OWNER. **A mail or fax modification should not reveal the Bid price but should provide the addition or subtraction or other modification so that the final prices will not be known by the City and Borough until the sealed Bid is opened.** Submitted Modification forms shall include the modification to the unit price or lump sum amount of each pay item modified.

FAX DISCLAIMER: It is the responsibility of the bidder to submit modifications in a timely manner. Bidders' use of a fax machine to modify their bid shall be at bidders' sole risk. The Purchasing Division will attempt to keep the fax machine in good working order but will not be responsible for bid modifications that are late due to mechanical failure, a busy fax machine, or any other cause arising from bidder's use of a fax machine, even if bidder submits a transmission report or provides other confirmation indicating that the bidder transmitted a bid modification prior to the deadline. The City will not be responsible for its failure to receive the modification whether such failure is caused by equipment or human error, or otherwise. Bidders are therefore strongly encouraged to confirm receipt of their bid modification with the Purchasing Division (907-586-5258) prior to deadline.

- B. Conditioned bids, limitations, or provisos attached to the Bid or bid modification will render it unauthorized and cause its rejection as being non-responsive. The completed Bid forms shall be without interlineations, alterations, or erasures in the printed text. All changes shall be initialed by the person signing the Bid. Alternative Bids will not be considered unless called for.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

16.0 WITHDRAWAL OF BID. Prior to the Deadline for Bids, the Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids.

17.0 AWARD OF CONTRACT.

- A. Award of a contract, if it is awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Technical Specifications and will be made to the lowest responsive, responsible Bidder whose Bid complies with all the requirements prescribed. Unless otherwise specified, any such award will be made within the period stated in the Notice Inviting Bids that the Bids are to remain open. Unless otherwise indicated, a single award will be made for all the Bid items in an individual Bid Schedule.
- B. If the OWNER has elected to advertise this Project with a Base Bid and Alternates, the OWNER may elect to award the contract for the Base Bid, or the Base Bid in combination with one or more Alternates selected by the OWNER. In either case, award shall be made to the responsive, responsible bidder offering the lowest total Bid for the WORK to be awarded.
- C. Low Bidder will be determined on the basis of the lowest total of the Base Bid plus combinations of Alternates in order of priority as listed below within the limits of available funding.

Priority No.

- 1 Base Bid and Alternate No. 1
- 2 Base Bid

18.0 EXECUTION OF AGREEMENT.

- A. All Bids of value greater than \$1,000,000 must be approved by the CBJ Assembly. After the CBJ Assembly has approved the award and after the Bid protest period, the OWNER will issue a Notice of Intent to Award to the approved Bidder. The Bidder to whom award is made shall execute a written Agreement with the OWNER on the Agreement form, Section 00500, collect insurance, and shall furnish all certificates and Bonds required by the Contract Documents within 10 Days (calendar) from the date of the Notice of Intent to Award letter.
- B. Failure or refusal to enter into the Agreement as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the third lowest responsive, responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Agreement, each such Bidder's Bid securities shall be likewise forfeited to the OWNER.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

19.0 LIQUIDATED DAMAGES. Provisions for liquidated damages if any, are set forth in Section 00500 - Agreement.

20.0 FILING A PROTEST.

A. A Bidder may protest the proposed award of a competitive sealed Bid by the City and Borough of Juneau. The protest shall be executed in accordance with CBJ Ordinance 53.50.062 PROTESTS and CBJ Ordinance 53.50.080 ADMINISTRATION OF PROTEST. The entire text of the CBJ Purchasing Ordinance can be accessed at the CBJ website, <http://www.juneau.org/law/code/code.php>, or call the CBJ Purchasing Division at (907) 586-5258 for a copy of the ordinance.

B. Late protests shall not be considered by the CBJ Purchasing Officer.

21.0 CONTRACTOR'S GOOD STANDING WITH CBJ FINANCE DEPARTMENT: Contractors must be in good standing with the CBJ prior to award, and prior to any contract renewals, and in any event no later than seven business days following notification by the CBJ of intent to award. **Good standing** means: all amounts owed to the CBJ are current and the Contractor is not delinquent with respect to any taxes, fees, assessment, or other monies due and owed the CBJ, or a Confession of Judgment has been executed and the Contractor is in compliance with the terms of any stipulation associated with the Confession of Judgment, including being current as to any installment payments due; and Contractor is current in all CBJ reporting obligations (such as sales tax registration and reporting and business personal property declarations). Failure to meet these requirements may be cause for rejection of your bid. To determine if your business is in good standing, or for further information, contact the CBJ Finance Department's Sales Tax Division at (907) 586-5265 for sales tax issues, Assessor's Office at (907)586-0930 for business personal property issues, or Collections Division at (907) 586-5268 for all other accounts.

22.0 PERMITS AND LICENSES. The CONTRACTOR is responsible for all WORK associated with meeting any local, state, and/or federal permit and licensing requirements.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

CITY AND BOROUGH OF JUNEAU
PURCHASING DIVISION
FAX NO. 907-586-4561

BID MODIFICATION FORM

Modification Number: _____

Modification Page ____ of ____

Note: All modifications shall be made to the original bid amount(s). If more than one Modification form is submitted by any one bidder, changes from all Modification forms submitted will be combined and applied to the original bid. Changes to the modified Bid amounts will be calculated by the OWNER. Bidder may use multiple modification pages if required.

BASE BID PAY ITEM NO.	BASE BID PAY ITEM DESCRIPTION	MODIFICATIONS TO UNIT PRICE OR LUMP SUM (<i>indicate +/-</i>)

Base Bid Total Increase or Decrease: \$ _____

ALTERNA TED PAY ITEM No.	ALTERNATE PAY ITEM DESCRIPTION	MODIFICATIONS TO UNIT PRICE OR LUMP SUM (<i>indicate +/-</i>)

Alternate Total Increase or Decrease: \$ _____

Name of Bidding Firm

Responsible Party Signature

Printed Name (must be an authorized signatory for Bidding Firm)

END OF SECTION

SECTION 00300 - BID

BID TO: THE CITY AND BOROUGH OF JUNEAU

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the OWNER on the form included in the Contract Documents (as defined in Article 7 of Section 00500 - Agreement) to perform the WORK as specified or indicated in said Contract Documents entitled

Downtown Waterfront Corrosion Control Repairs Contract No. E16-164

2. Bidder accepts all of the terms and conditions of the Contract Documents, including without limitation those in the "Notice Inviting Bids" and "Instructions to Bidders," dealing with the disposition of the Bid Security.
3. This Bid will remain open for the period stated in the "Notice Inviting Bids" unless otherwise required by law. Bidder will enter into an Agreement within the time and in the manner required in the "Notice Inviting Bids" and the "Instructions to Bidders," and will furnish insurance certificates, Payment Bond, Performance Bond, and any other documents as may be required by the Contract Documents.
4. Bidder has familiarized itself with the nature and extent of the Contract Documents, WORK, site, locality where the WORK is to be performed, the legal requirements (federal, state and local laws, ordinances, rules, and regulations), and the conditions affecting cost, progress or performance of the WORK and has made such independent investigations as Bidder deems necessary.
5. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
6. To all the foregoing, and including all Bid Schedule and information required of Bidder contained in this Bid Form, said Bidder further agrees to complete the WORK required under the Contract Documents within the Contract Time stipulated in said Contract Documents, and to accept in full payment therefore the Contract Price based on the total bid price(s) named in the aforementioned Bid Schedule.
7. Bidder has examined copies of all the Contract Documents including the following Addenda (receipt of all of which is hereby acknowledged by the Undersigned):

Addenda No.	Date Issued

Addenda No.	Date Issued

Give number and date of each Addenda above. Failure to acknowledge receipt of all Addenda may cause the Bid to be non-responsive and may cause its rejection.

SECTION 00300 - BID

8. The Bidder has read this Bid and agrees to the conditions as stated herein by signing its signature in the space provided below.

Dated: _____	Bidder: _____ (Company Name)
Alaska CONTRACTOR's Business License No: _____	By: _____ (Signature)
Alaska CONTRACTOR's License No: _____	Printed Name: _____ Title: _____
Telephone No: _____	Address: _____ (Street or P.O. Box)
Fax No: _____	_____
E-mail: _____	(City, State, Zip)

9. TO BE CONSIDERED, ALL BIDDERS MUST COMPLETE AND INCLUDE THE FOLLOWING AT THE TIME OF THE DEADLINE FOR BIDS:

- Bid, Section 00300 (includes Addenda receipt statement)
- Completed Bid Schedule, Section 00310
- Bid Security (Bid Bond, Section 00320, or by a certified or cashier's check as stipulated in the Notice Inviting Bids, Section 00030)

10. The apparent low Bidder is required to complete and submit the following documents by 4:30 p.m. on the **fifth business day** following the date of the Posting Notice.

- Subcontractor Report, Section 00360

The apparent low Bidder who fails to submit a completed Subcontractor Report within the time specified in Section 00360 – Subcontractor Report may be found to be not a responsible Bidder and may be required to forfeit the Bid security. The OWNER may then consider the next lowest Bidder for award of the contract.

11. The successful Bidder will be required to submit, **within ten Days (calendar)** after the date of the “Notice of Intent to Award” letter, the following executed documents:

- Agreement Forms, Section 00500
- Performance Bond, Section 00610
- Payment Bond, Section 00620
- Certificates of Insurance, (CONTRACTOR) Section 00700 and Section 00800

END OF SECTION

SECTION 00310 - BID SCHEDULE**BASE BID**

PAY ITEM NO.	PAY ITEM DESCRIPTION	PAY UNIT	APPROX. QUANTITY	UNIT PRICE		AMOUNT	
				DOLLARS	CENTS	DOLLARS	CENTS
1505.1	Mobilization	Lump Sum	All Req'd	Lump	Sum		
2455.1	Marine Park Bus Parkover Pile Wrap and Jacketing	Lump Sum	All Req'd	Lump	Sum		
2455.2	Downtown Parking Garage & Library Pile Wrap & Jacketing	Lump Sum	All Req'd	Lump	Sum		

TOTAL BASE BID _____

Alternate No. 1				UNIT PRICE		AMOUNT	
PAY ITEM NO.	PAY ITEM DESCRIPTION	PAY UNIT	APPROX. QUANTITY	DOLLARS	CENTS	DOLLARS	CENTS
13112.1	Sheet Pile Galvanic Anode Cathodic Protection	Lump Sum	All Req'd	Lump	Sum		

TOTAL ALTERNATE NO. 1 BID _____**COMPANY NAME:** _____

SECTION 00320 - BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that _____
_____ as Principal, and _____
as Surety, are held and firmly bound unto **THE CITY AND BOROUGH OF JUNEAU** hereinafter called
"OWNER," in the sum of _____
_____dollars, (not less than five percent of the total amount of the Bid) for the
payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under
the Bid Schedule of the OWNER's Contract Documents entitled.

**Downtown Waterfront Corrosion Control Repairs
Contract No. E16-164**

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and
in the manner required in the "Notice Inviting Bids" and the "Instructions to Bidders" enters into a written
Agreement on the form of Agreement bound with said Contract Documents, furnishes the required certificates
of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be
null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by
said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit,
including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this _____ day of _____, 20____

(SEAL) _____
(Principal)

(SEAL) _____
(Surety)

By: _____
(Signature)

By: _____
(Signature)

END OF SECTION

SECTION 00360 - SUBCONTRACTOR REPORT

LIST OF SUBCONTRACTORS (AS 36.30.115)

The apparent low Bidder must submit a list of Subcontractors that the Bidder proposes to use in the performance of this contract *on the fifth business day* following the Posting Notice of Bids. If the fifth day falls on a weekend or holiday, the report is due by close of business on the next business Day following the weekend or holiday. The Subcontractor Report list must include each Subcontractor's name, address, location, evidence of valid Alaska Business License, and valid Alaska Contractor's Registration under AS 08.18. *If no Subcontractors are to be utilized in the performance of the WORK, write in ink or type "NONE" on line (1) below.*

<u>SUBCONTRACTOR</u>	¹ <u>AK Contractor License No.</u>	¹ <u>Contact Name</u>	<u>Type of</u>	<u>Contract</u>	<input type="checkbox"/> if
<u>ADDRESS</u>	² <u>AK Business License No.</u>	² <u>Phone No.</u>	<u>Work</u>	<u>Amount</u>	<u>DBE</u>
1. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
2. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
3. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
4. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>

I certify that the above listed Alaska Business License(s) and CONTRACTOR Registration(s), if applicable, were valid at the time Bids were opened for this Project.

CONTRACTOR, Authorized Signature

CONTRACTOR, Printed Name

COMPANY

SECTION 00360 - SUBCONTRACTOR REPORT

- A. A Bidder may replace a listed Subcontractor if the Subcontractor:
1. fails to comply with AS 08.18;
 2. files for bankruptcy or becomes insolvent;
 3. fails to execute a contract with the Bidder involving performance of the WORK for which the Subcontractor was listed and the Bidder acted in good faith;
 4. fails to obtain bonding;
 5. fails to obtain insurance acceptable to the OWNER;
 6. fails to perform the contract with the Bidder involving work for which the Subcontractor was listed;
 7. must be substituted in order for the CONTRACTOR to satisfy required state and federal affirmative action requirements;
 8. refuses to agree or abide with the Bidder's labor agreement; or
 9. is determined by the OWNER not to be responsible.
 10. is not in "Good Standing" with the OWNER as required in Article 21.0 in Section 00100 – Instructions to Bidders.
- B. If a Bidder fails to list a Subcontractor or lists more than one Subcontractor for the same portion of WORK, the Bidder shall be considered to have agreed to perform that portion of WORK without the use of a Subcontractor and to have represented the Bidder to be qualified to perform that WORK.
- C. A Bidder who attempts to circumvent the requirements of this section by listing as a Subcontractor another contractor who, in turn, sublets the majority of the WORK required under the contract violates this section.
- D. If a contract is awarded to a Bidder who violates this section, the OWNER may:
1. cancel the contract; or
 2. after notice and a hearing, assess a penalty on the Bidder in an amount that does not exceed 10 percent of the value of the subcontract at issue.
- E. On the Subcontractor Report, the apparent low Bidder must list any Subcontractors anticipated to perform WORK with a value of greater than one-half of one percent of the intended award amount, or \$2,000, whichever is less.
- F. An apparent low Bidder who fails to submit a completed Subcontractor Report within the time specified in this section may be found to be not a responsible Bidder and may be required to forfeit the Bid security. The OWNER will then consider the next lowest Bidder for award of the contract.

END OF SECTION

SECTION 00500 - AGREEMENT

THIS AGREEMENT is between THE CITY AND BOROUGH OF JUNEAU (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR) OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK.

CONTRACTOR shall complete the WORK as specified or as indicated under the Bid Schedule of the OWNER's Bid Documents entitled **Contract No. E16-164, Downtown Waterfront Corrosion Control Repairs.**

The WORK is generally described as follows: WORK consists of all activities necessary to provide the Downtown Waterfront Corrosion Control Repairs as shown in the contract documents. The WORK includes in-place surface preparation and jacketing of H-piles and galvanic protection systems and miscellaneous related WORK.

The WORK to be paid under this contract shall include the following: Base Bid and Alternates as shown in Section 00310 - Bid Schedule.

ARTICLE 2. CONTRACT COMPLETION TIME.

The WORK must have substantial completion on or before December 14, 2016. Final completion shall be December 31, 2016.

NOTE: NO WORK BLACKOUT DATES: May 14, 2016, through October 1, 2016, due to cruise ship docking, TWIC dock security measures and restricted access to work areas during summer 2016 Cruise Ship season.

ARTICLE 3. DATE OF AGREEMENT

The date of this Agreement will be the date of the last signature on page three of this section.

ARTICLE 4. LIQUIDATED DAMAGES.

OWNER and the CONTRACTOR recognize that time is of the essence of this Agreement and that the OWNER will suffer financial loss if the WORK is not completed within the time specified in Article 2 herein, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual damages suffered by the OWNER if the WORK is not completed on time. Accordingly, instead of requiring any such proof, the OWNER and the CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) the CONTRACTOR shall pay the OWNER **\$1,100** for each Day that expires after the completion time specified in Article 2 herein. The amount of liquidated damages specified above is agreed to be a reasonable estimate based on all facts known as of the date of this Agreement.

ARTICLE 5. CONTRACT PRICE.

OWNER shall pay CONTRACTOR for completion of the WORK in accordance with the Contract Documents in the amount set forth in the Bid Schedule. The CONTRACTOR agrees to accept as full and complete payment for all WORK to be done in this contract for: **Contract No. E16-164 Downtown Waterfront Corrosion Control Repairs**, those Unit Price amounts as set forth in the Bid Schedule in the Contract Documents for this Project.

SECTION 00500 - AGREEMENT

The total amount of this contract shall be _____ (\$ _____), except as adjusted in accordance with the provisions of the Bid Documents.

ARTICLE 6. PAYMENT PROCEDURES.

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by the ENGINEER as provided in the General Conditions.

Progress payments will be paid in full in accordance with Article 14 of the General Conditions until ninety (90) percent of the Contract Price has been paid. The remaining ten (10) percent of the Contract Price may be retained, in accordance with applicable Alaska State Statutes, until final inspection, completion, and acceptance of the Project by the OWNER.

ARTICLE 7. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK consist of this Agreement (pages 00500-1 to 00500-6, inclusive) and the following sections of the Contract Documents:

- Table of Contents (pages 00005-1 to 00005-2, inclusive)
- Notice Inviting Bids (pages 00030-1 to 00030-3, inclusive).
- Instructions to Bidders (pages 00100-1 to 00100-9, inclusive).
- Bid (pages 00300-1 to 00300-2, inclusive).
- Bid Schedule (pages 00310-1, inclusive).
- Bid Bond (page 00320-1, inclusive) or Bid Security.
- Subcontractor Report (pages 00360-1 to 00360-2, inclusive).
- Performance Bond (pages 00610-1 to 00610-2, inclusive).
- Payment Bond (pages 00620-1 to 00620-2, inclusive).
- Insurance Certificate(s).
- General Conditions (pages 00700-1 to 00700-48, inclusive).
- Supplementary General Conditions (pages 00800-1 to 00800-5, inclusive).
- Alaska Labor Standards, Reporting, and Prevailing Wage Determination (page 00830-1).
- Technical Specifications as listed in the Table of Contents.
- Drawings consisting of 20 sheets, as listed in the Table of Contents.
- Addenda numbers _____ to _____, inclusive.
- Change Orders which may be delivered or issued after the Date of the Agreement and which are not attached hereto.

There are no Contract Documents other than those listed in this Article 7. The Contract Documents may only be amended by Change Order as provided in Paragraph 3.3 of the General Conditions.

ARTICLE 8. MISCELLANEOUS.

Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

SECTION 00500 - AGREEMENT

ARTICLE 8. MISCELLANEOUS. (Cont'd.)

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents. This Agreement shall be governed by the laws of the State of Alaska. Jurisdiction shall be in the State of Alaska, First Judicial District.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have caused this Agreement to be executed on the date listed below by OWNER.

OWNER:

CONTRACTOR:

City and Borough of Juneau

(Company Name)

(Signature)

(Signature)

By: Kimberly A. Kiefer, City & Borough Manager
(Printed Name)

By: _____
(Printed Name, Authority or Title)

Date: _____

CONTRACTOR Signature Date: _____

OWNER's address for giving notices:

CONTRACTOR's address for giving notices:

155 South Seward Street

Juneau, Alaska 99801

907-586-0873 907-586-4530
(Telephone) (Fax)

(Telephone) (Fax)

(E-mail address)

Contractor License No. _____

SECTION 00500 - AGREEMENT

CERTIFICATE
(if Corporation)

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Board of Directors of the
_____ a corporation existing under the laws of
the State of _____, held on _____, 20____, the following resolution
was duly passed and adopted:

“RESOLVED, that _____, as _____ President
of the Corporation, be and is hereby authorized to **execute the Agreement** with the CITY AND
BOROUGH OF JUNEAU and this corporation and that the execution thereof, attested by the
Secretary of the Corporation, and with the Corporate Seal affixed, shall be the official act and deed
of this Corporation.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the
corporation this _____ day of _____, 20_____.

Secretary

(SEAL)

SECTION 00500 - AGREEMENT

CERTIFICATE
(if Partnership)

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Partners of the
_____ a partnership existing under the laws of the State
of _____, held on _____, 20____, the following resolution was duly
passed and adopted:

"RESOLVED, that _____, as _____ of the Partnership, be and is
hereby authorized to **execute the Agreement** with the CITY AND BOROUGH OF JUNEAU and
this partnership and that the execution thereof, attested by the _____ shall be
the official act and deed of this Partnership."

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of _____,
20_____.

Secretary

(SEAL)

SECTION 00500 - AGREEMENT

**CERTIFICATE
(if Joint Venture)**

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Principals of the
_____ a joint venture existing under the laws of the
State of _____, held on _____, 20____, the following resolution was duly passed and
adopted:

"RESOLVED, that _____, as _____ of the
Joint Venture, be and is hereby authorized to **execute the Agreement** with the CITY AND
BOROUGH OF JUNEAU and this joint venture and that the execution thereof, attested by the
_____ shall be the official act and deed of this Joint Venture."

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of
_____, 20_____.

Secretary

(SEAL)

END OF SECTION

SECTION 00610 - PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we _____
(Name of Contractor)

_____ a _____
(Corporation, Partnership, Individual)

hereinafter called "Principal" and _____
(Surety)

of _____, State of _____ hereinafter called the "Surety," are held and
firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA hereinafter called "OWNER,"
(Owner) (City and State)

for the penal sum of _____

_____dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the CONTRACTOR has entered into a certain contract with the OWNER, the effective date of which is (CBJ Contracts Office to fill in effective date) _____, a copy of which is hereto attached and made a part hereof for the construction of:

Downtown Waterfront Corrosion Control Repairs
CBJ Contract No. E16-164

NOW, THEREFORE, if the Principal shall truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof, which may be granted by the OWNER, with or without notice to the Surety, and if it shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

Downtown Waterfront Corrosion Control Repairs
CBJ Contract No. E16-164

SECTION 00620 - PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we _____
(Name of Contractor)

_____ a _____
(Corporation, Partnership, Individual)

hereinafter called "Principal" and _____
(Surety)

of _____, State of _____ hereinafter called the "Surety," are held and
firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA hereinafter called "OWNER,"
(Owner) (City and State)

for the penal sum of _____

_____ dollars (\$_____) in lawful money of the
United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors,
administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the CONTRACTOR has entered
into a certain contract with the OWNER, the effective date of which is (CBJ Contracts Office to fill in effective
date) _____, a copy of which is hereto attached and made a part hereof for the
construction of:

**Downtown Waterfront Corrosion Control Repairs
CBJ Contract No. E16-164**

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms,
Subcontractors, and corporations furnishing materials for, or performing labor in the prosecution of the WORK
provided for in such contract, and any authorized extension or modification thereof, including all amounts due
for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or
used in connection with the construction of such WORK, and all insurance premiums on said work, and for all
labor performed in such WORK, whether by Subcontractor or otherwise, then this obligation shall be void;
otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no
change, extension of time, alteration or addition to the terms of the contract or to the work to be performed
thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and
it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the
contract or to the WORK or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal shall abridge
the right of any beneficiary hereunder, whose claim may be unsatisfied.

SECTION 00620 - PAYMENT BOND

**Downtown Waterfront Corrosion Control Repairs
CBJ Contract No. E16-164**

IN WITNESS WHEREOF, this instrument is issued in two (2) identical counterparts, each one of which shall be deemed an original.

CONTRACTOR:

By: _____
(Signature)

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

SURETY:

By: _____
(Signature of Attorney-in-Fact)

Date Issued: _____

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

NOTE: If CONTRACTOR is Partnership, all Partners must execute bond.

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ARTICLE 1 DEFINITIONS

Wherever used in these General Conditions or in the Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof. Where an entire word is capitalized in the definitions and is found not capitalized in the Contract Documents it has the ordinary dictionary definition.

Addenda - Written or graphic instruments issued prior to the opening of Bids which make additions, deletions, or revisions to the Contract Documents.

Agreement - The written contract between the OWNER and the CONTRACTOR covering the WORK to be performed; other documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form furnished by the ENGINEER which is to be used by the CONTRACTOR to request progress or final payment and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

Asbestos - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the price or prices for the WORK.

Bonds - Bid, Performance, and Payment Bonds and other instruments which protect against loss due to inability or refusal of the CONTRACTOR to perform its contract.

CBJ Project Manager - The authorized representative of the City and Borough of Juneau Engineering Department, as OWNER, who is responsible for administration of the contract.

Change Order - A document recommended by the ENGINEER, which is signed by the CONTRACTOR and the OWNER and authorizes an addition, deletion, or revision in the WORK, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

Contract Documents - The Table of Contents, Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates and affidavits), Agreement, Performance Bond, Payment Bond, General Conditions, Supplementary General Conditions, Technical Specifications, Drawings, Permits, and all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents.

Contract Price - The total monies payable by the OWNER to the CONTRACTOR under the terms and conditions of the Contract Documents.

Contract Time - The number of successive calendar Days stated in the Contract Documents for the completion of the WORK.

CONTRACTOR - The individual, partnership, corporation, joint-venture or other legal entity with whom the OWNER has executed the Agreement.

Day - A calendar day of 24 hours measured from midnight to the next midnight.

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Defective WORK - WORK that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or WORK that has been damaged prior to the ENGINEER's recommendation of final payment.

Drawings - The Drawings, plans, maps, profiles, diagrams, and other graphic representations which indicate the character, location, nature, extent, and scope of the WORK and which have been prepared by the ENGINEER and are referred to in the Contract Documents. Shop Drawings are not within the meaning of this paragraph.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

Engineer of Record - The individual, partnership, corporation, joint-venture or other legal entity named as such in the Contract Documents.

ENGINEER - The ENGINEER is the firm or person(s) selected by the City and Borough of Juneau (CBJ) to perform the duties of project inspection and management. CBJ will inform the CONTRACTOR of the identity of the ENGINEER at or before the Notice to Proceed.

Field Order - A written order issued by the ENGINEER which may or may not involve a change in the WORK.

General Requirements - Division 1 of the Technical Specifications.

Hazardous Waste - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 9603) as amended from time to time.

Holidays - The CBJ legal holidays occur on:

1. New Year's Day - January 1
2. Martin Luther King's Birthday - Third Monday in January
3. President's Day - Third Monday in February
4. Seward's Day - Last Monday in March
5. Memorial Day - Last Monday in May
6. Independence Day - July 4
7. Labor Day - First Monday in September
8. Alaska Day - October 18
9. Veteran's Day - November 11
10. Thanksgiving Day - Fourth Thursday and the following Friday in November
11. Christmas Day - December 25

If any holiday listed above falls on a Saturday, Saturday and the preceding Friday are both legal holidays. If the holiday should fall on a Sunday, Sunday and the following Monday are both legal holidays.

Inspector - The authorized representative of the ENGINEER assigned to make detailed inspections for conformance to the Contract Documents. Any reference to the Resident Project Representative in this document shall mean the Inspector.

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Laws and Regulations; Laws or Regulations - Any and all applicable laws, rules, regulations, ordinances, codes, and/or orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

Mechanic's Lien - A form of security, an interest in real property, which is held to secure the payment of an obligation. When referred to in these Contract Documents, "Mechanic's Lien" or "lien" means "Stop Notice".

Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date of a portion of the WORK, or a period of time within which the portion of the WORK should be performed prior to Substantial Completion of all the WORK.

Notice of Award - The written notice by the OWNER to the apparent successful bidder stating that the apparent successful bidder has complied with all conditions for award of the contract.

Notice of Completion - A form signed by the ENGINEER and the CONTRACTOR recommending to the OWNER that the WORK is Substantially Complete and fixing the date of Substantial Completion. After acceptance of the WORK by the OWNER's governing body, the form is signed by the OWNER and filed with the County Recorder. This filing starts the 30-day lien filing period on the WORK.

Notice to Proceed - The written notice issued by the OWNER to the CONTRACTOR authorizing the CONTRACTOR to proceed with the WORK and establishing the date of commencement of the Contract Time.

Notice of Intent to Award - The written notice by the OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the requirements listed therein, within the time specified, the OWNER will enter into an Agreement.

OWNER - The City and Borough of Juneau (CBJ), acting through its legally designated officials, officers, or employees.

Partial Utilization - Use by the OWNER or a substantially completed part of the WORK for the purpose for which it is intended prior to Substantial Completion of all the WORK.

PCB's - Polychlorinated biphenyls.

PERMITTEE – See definition for CONTRACTOR.

Petroleum - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

Project - The total construction of which the WORK to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

Radioactive Material - Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

Shop Drawings - All Drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the CONTRACTOR and submitted by the CONTRACTOR, to the ENGINEER, to illustrate some portion of WORK.

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Specifications - Same definition as "Technical Specifications" hereinafter.

Stop Notice - A legal remedy for Subcontractors and suppliers who contribute to public works, but who are not paid for their WORK, which secures payment from construction funds possessed by the OWNER. For public property, the Stop Notice remedy is designed to substitute for mechanic's lien rights.

Sub-Consultant - The individual, partnership, corporation, joint-venture or other legal entity having a direct contract with ENGINEER, or with any of its Consultants to furnish services with respect to the Project.

Subcontractor - An individual, partnership, corporation, joint-venture or other legal entity having a direct contract with the CONTRACTOR, or with any of its Subcontractors, for the performance of a part of the WORK at the site.

Substantial Completion - Refers to when the WORK has progressed to the point where, in the opinion of the ENGINEER as evidenced by Notice of Completion as applicable, it is sufficiently complete, in accordance with the Contract Documents, so that the WORK can be utilized for the purposes for which it is intended; or if no such notice is issued, when final payment is due in accordance with Paragraph 14.8. The terms "substantially complete" and "substantially completed" as applied to any WORK refer to substantial completion thereof.

Supplementary General Conditions (SGC) - The part of the Contract Documents which make additions, deletions, or revisions to these General Conditions.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman, or vendor.

Technical Specifications - Divisions 1 through 16 of the Contract Documents consisting of the General Requirements and written technical descriptions of products and execution of the WORK.

Underground Utilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: water, sewage and drainage removal, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic, or other control systems.

WORK, Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. WORK is the result of performing, or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

ARTICLE 2 PRELIMINARY MATTERS

- 2.1 DELIVERY OF BONDS/INSURANCE CERTIFICATES. When the CONTRACTOR delivers the signed Agreements to the OWNER, the CONTRACTOR shall also deliver to the OWNER such Bonds and Insurance Policies and Certificates as the CONTRACTOR may be required to furnish in accordance with the Contract Documents.
- 2.2 COPIES OF DOCUMENTS. The OWNER shall furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Supplementary General Conditions.
- 2.3 COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED. The Contract Time will start to run on the commencement date stated in the Notice to Proceed.

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2.4 STARTING THE WORK

- A. The CONTRACTOR shall begin to perform the WORK within 10 days after the commencement date stated in the Notice to Proceed, but no WORK shall be done at the site prior to said commencement date.
- B. Before undertaking each part of the WORK, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The CONTRACTOR shall promptly report in writing to the ENGINEER any conflict, error, or discrepancy which the CONTRACTOR may discover and shall obtain a written interpretation or clarification from the ENGINEER before proceeding with any WORK affected thereby.
- C. The CONTRACTOR shall submit to the ENGINEER for review those documents called for under Section 01300 - CONTRACTOR Submittals in the General Requirements.

2.5 PRE-CONSTRUCTION CONFERENCE. The CONTRACTOR is required to attend a Pre-Construction Conference. This conference will be attended by the ENGINEER and others as appropriate in order to discuss the WORK in accordance with the applicable procedures specified in the General Requirements, Section 01010 - Summary of WORK in the General Requirements.

2.6 FINALIZING CONTRACTOR SUBMITTALS. At least 7 days before submittal of the first Application for Payment a conference attended by the CONTRACTOR, the ENGINEER and others as appropriate will be held to finalize the initial CONTRACTOR submittals in accordance with the General Requirements. As a minimum the CONTRACTOR's representatives should include the project manager and schedule expert. The CONTRACTOR should plan on this meeting taking no less than 8 hours. If the submittals are not finalized at the end of the meeting, additional meetings will be held so that the submittals can be finalized prior to the submittal of the first application for payment. No application for payment will be processed until CONTRACTOR submittals are finalized.

ARTICLE 3 CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 INTENT

- A. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR concerning the WORK. The Contract Documents shall be construed as a whole in accordance with Alaska Law.
- B. It is the intent of the Contract Documents to describe the WORK, functionally complete, to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe work, materials, or equipment such words or phrases shall be interpreted in accordance with that meaning, unless a definition has been provided in Article 1 of the General Conditions. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual, or code (whether or not specifically

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incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the OWNER, the CONTRACTOR, or the ENGINEER or any of their consultants, agents, or employees from those set forth in the Contract Documents.

- C. If, during the performance of the WORK, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the WORK or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, the CONTRACTOR shall report it to the ENGINEER in writing at once, and the CONTRACTOR shall not proceed with the WORK affected thereby (except in an emergency as authorized by the ENGINEER) until a clarification field order, or Change Order to the Contract Documents has been issued.

3.2 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

- A. In resolving conflicts resulting from, errors, or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:
 - 1. Permits from other agencies as may be required by law, excepting the definition of "PERMITEE" in these permits.
 - 2. Field Orders
 - 3. Change Orders
 - 4. ENGINEER's written interpretations and clarifications.
 - 5. Agreement
 - 6. Addenda
 - 7. CONTRACTOR's Bid (Bid Form)
 - 8. Supplementary General Conditions
 - 9. Notice Inviting Bids
 - 10. Instructions to Bidders
 - 11. General Conditions
 - 12. Technical Specifications
 - 13. Drawings
- B. With reference to the Drawings the order of precedence is as follows:
 - 1. Figures govern over scaled dimensions
 - 2. Detail Drawings govern over general Drawings
 - 3. Addenda/ Change Order drawings govern over Contract Drawings
 - 4. Contract Drawings govern over standard drawings

- 3.3 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS. The Contract Documents may be amended to provide for additions, deletions, and revisions in the WORK or to modify the terms and conditions thereof by a Change Order (pursuant to Article 10 CHANGES IN THE WORK).

- 3.4 REUSE OF DOCUMENTS. Neither the CONTRACTOR, nor any Subcontractor or Supplier, nor any other person or organization performing any of the WORK under a contract with the OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Technical Specifications, or other documents used on the WORK, and they shall not reuse any of them on the extensions of the Project or any other project without written consent of the OWNER.

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ARTICLE 4 AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

4.1 AVAILABILITY OF LANDS. The OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the WORK is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise provided in the Contract Documents. Nothing contained in the Contract Documents shall be interpreted as giving the CONTRACTOR exclusive occupancy of the lands or rights-of-way provided. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment; provided, that the CONTRACTOR shall not enter upon nor use any property not under the control of the OWNER until a written temporary construction easement, lease or other appropriate agreement has been executed by the CONTRACTOR and the property owner, and a copy of said agreement furnished to the ENGINEER prior to said use; and, neither the OWNER nor the ENGINEER shall be liable for any claims or damages resulting from the CONTRACTOR's unauthorized trespass or use of any such properties.

4.2 PHYSICAL CONDITIONS - SUBSURFACE AND EXISTING STRUCTURES

- A. Explorations and Reports. Reference is made to SGC 4.2 Physical Conditions of the Supplementary General Conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by the ENGINEER in the preparation of the Contract Documents. The CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, however, reports are not to be considered complete or comprehensive and nontechnical data, interpretations, and opinions contained in such reports are not to be relied on by the CONTRACTOR. The CONTRACTOR is responsible for any further explorations or tests that may be necessary and any interpretation, interpolation, or extrapolation that it makes of any information shown in such reports.
- B. Existing Structures. Reference is made to SGC 4.2 Physical Conditions of the Supplementary General Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Utilities referred to in Paragraph 4.4 herein) which are at or contiguous to the site that have been utilized by the ENGINEER in the preparation of the Contract Documents. The CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, however, nontechnical data, interpretations, and opinions contained in such drawings are not to be relied on by the CONTRACTOR. The CONTRACTOR is also responsible for any interpretation, interpolation, or extrapolation that it makes of any information shown in such drawings.

4.3 DIFFERING SITE CONDITIONS

- A. The CONTRACTOR shall promptly upon discovery (but in no event later than 14 days thereafter) and before the following conditions are disturbed, notify the ENGINEER, in writing of any:
 - 1. Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Article 1 of these General Conditions, or asbestos, PCB's, petroleum or any other substance or material posing a threat to human or to the environment.
 - 2. Subsurface or latent physical conditions at the site differing from those indicated.

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3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the contract.
- B. The OWNER shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the WORK shall issue a Change Order under the procedures described in the contract.
- C. In the event that a dispute arises between the OWNER and the CONTRACTOR whether the conditions materially differ, or involved hazardous waste or other materials listed above, or cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the WORK, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all WORK to be performed under the contract. The CONTRACTOR shall retain any and all rights provided either by contract or by Law which pertain to the resolution of disputes and protests between the contracting parties.

4.4 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES

- A. Indicated. The information and data indicated in the Contract Documents with respect to existing Underground Utilities at or contiguous to the site are based on information and data furnished to the OWNER or the ENGINEER by the owners of such Underground Utilities or by others. Unless it is expressly provided in the Supplementary General Conditions and/or Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements, the OWNER and the ENGINEER shall not be responsible for the accuracy or completeness of any such information or data, and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Utilities indicated in the Contract Documents, for coordination of the WORK with the owners of such Underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the WORK, the cost of which will be considered as having been included in the Contract Price.
- B. Not Indicated. If an Underground Utility is uncovered or revealed at or contiguous to the site which was not indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall identify the owner of such Underground Utility and give written notice thereof to that owner and shall notify the ENGINEER in accordance with the requirements of the Supplementary General Conditions and Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements.

4.5 REFERENCE POINTS

- A. The ENGINEER will provide one bench mark, near or on the site of the WORK, and will provide two points near or on the site to establish a base line for use by the CONTRACTOR for alignment control. Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish all other lines, grades, and bench marks required for proper execution of the WORK.
- B. The CONTRACTOR shall preserve all bench marks, stakes, and other survey marks, and in case of their removal or destruction by its own employees or by its Subcontractor's

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employees, the CONTRACTOR shall be responsible for the accurate replacement of such reference points by personnel qualified under the Alaska Statute governing the licensing of Architects, Engineers, and Land Surveyors.

4.6 USE OF THE CBJ/STATE LEMON CREEK GRAVEL PIT

- A. On City and Borough of Juneau (CBJ) construction projects, the CBJ may make unclassified material available to CONTRACTORS, from the CBJ/State Lemon Creek gravel pit, at a rate less than charged other customers. CONTRACTORS are not required to use material from the CBJ/State pit and the CBJ makes no guarantee as to the quantity or quality of the available material. For this Project, the price shall be \$1.90 per ton.
- B. CONTRACTORS proposing to use gravel from the CBJ/State pit are required to be in good standing for all amounts owed to the CBJ, for previous gravel operations, prior to submitting a mining plan for approval. CONTRACTORS using the pit must comply with Allowable Use Permit USE 98-00047. Failure to meet these requirements, if so subject, shall be sufficient reason to deny use of the CBJ/State pit as a gravel source. To determine if your company is subject to these requirements, contact the CBJ Engineering Department, Gravel Pit Management, at (907) 586-0800.
- C. CONTRACTORS deciding to use material from the CBJ/State pit shall provide an Individual Mining Plan prepared by a professional engineer registered in the State of Alaska. The Individual Mining Plan must be reviewed and approved by the CBJ, prior to commencing operations within the pit. CONTRACTORS shall also secure a Performance Bond to ensure compliance with contract provisions, including any Individual Mining Plan stipulations. The bond shall remain in full force and effect until a release is obtained from the CBJ.
- D. If CONTRACTOR operations for a project do not exceed 500 tons of material, the CONTRACTOR will not be required to provide an Individual Mining Plan prepared by an engineer. However, the CONTRACTOR must submit an Individual Mining Plan that is in compliance with Allowable Use Permit USE 98-00047 for gravel extraction within the CBJ/State pit. The CONTRACTOR must contact the CBJ Engineering Department for conditions for the extraction.
- E. CONTRACTORS using the CBJ material may do primary dry separation (screening) of materials within the pit. Crushing and washing of material will not be allowed. CONTRACTORS shall account for placement of materials removed from the pit. The CBJ may require CONTRACTORS to cross-check weight tickets, submit to an audit, or participate in other measures required by the CBJ to ensure accountability. Unprocessed overburden removed from the pit will not be weighed. All other material mined will be weighed at the CBJ scale. CONTRACTORS will be responsible for loading and/or screening their own material. If asphalt pavement is removed as part of the WORK, CONTRACTORS shall dispose of the material at a to-be-specified location within the pit area, as directed by the CBJ Project Manager.
- F. The gravel pit overhead charge shall be paid to the CBJ by the CONTRACTOR within 60 days after removal of all materials from the pit and prior to requesting and/or receiving final payment. Upon completion of each excavation CONTRACTORS shall notify the CBJ, in writing, in sufficient time to perform a field-compliance examination prior to vacating the pit. Any significant deviation from the stipulations of the Individual Mining Plan identified during the field inspection shall be corrected by the CONTRACTOR prior to release of the

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bond. A signed release from CBJ will be required prior to releasing the CONTRACTOR's bond.

- G. If asphalt pavement is removed as part of this WORK, the CONTRACTOR shall dispose of the material at the location designated as the Asphalt Storage Facility, or as directed by the ENGINEER.
- H. The CBJ/State pit is a seasonal operation. The hours of operation are from 7:00 a.m. to 6:00 p.m., Monday through Friday, from April 1 through October 15 of the year. CONTRACTORS may obtain gravel on weekends, or during the off-season, by applying for a separate agreement with the City and Borough of Juneau Engineering Department. The CONTRACTOR will be responsible for any additional costs incurred during weekend or off-season operations at the gravel pit.
- I. All Contractors/Equipment Operators using the CBJ/State Pit shall be in compliance with Federal Mine Safety and Health Administration regulations for quarry and gravel operations.

ARTICLE 5 BONDS AND INSURANCE

5.1 PERFORMANCE, PAYMENT, AND OTHER BONDS

- A. The CONTRACTOR shall furnish, when required, Performance and Payment Bonds on forms provided by the CBJ for the penal sums of 100% of the amount of the Bid award. The surety on each bond may be any corporation or partnership authorized to do business in the State of Alaska as an insurer under AS 21.09. These bonds shall remain in effect for 12 months after the date of final payment and until all obligations and liens under this contract have been satisfied. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- B. If the surety on any Bond furnished by the CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and Surety, which must be acceptable to the OWNER.
- C. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of Alaska to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions. The City Engineer may, on behalf of the OWNER, notify the surety of any potential default or liability.

5.2 INSURANCE

- A. The CONTRACTOR shall purchase and maintain the insurance required under this paragraph. Such insurance shall include the specific coverages set out herein and be written

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for not less than the limits of liability and coverages provided in the Supplementary General Conditions, or required by law, whichever are greater. All insurance shall be maintained continuously during the life of the Agreement up to the date of Final Completion and at all times thereafter when the CONTRACTOR may be correcting, removing, or replacing Defective WORK in accordance with Paragraph 13.6, but the CONTRACTOR's liabilities under this Agreement shall not be deemed limited in any way to the insurance coverage required.

- B. All insurance required by the Contract Documents to be purchased and maintained by the CONTRACTOR shall be obtained from insurance companies that are duly licensed or authorized in the State of Alaska to issue insurance policies for the limits and coverages so required. Such insurance companies shall have a current Best's Rating of at least an "A" (Excellent) general policy holder's rating and a Class VII financial size category and shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.
- C. The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, reduced in coverage, or renewal refused until at least 30 days' prior written notice has been given to the OWNER by certified mail. All such insurance required herein (except for Workers' Compensation and Employer's Liability) shall name the OWNER, its Consultants and subconsultants and their officers, directors, agents, and employees as "additional insureds" under the policies. The CONTRACTOR shall purchase and maintain the following insurance:
 - 1. Workers' Compensation and Employer's Liability. This insurance shall protect the CONTRACTOR against all claims under applicable state workers' compensation laws. The CONTRACTOR shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Workers' Compensation law. This policy shall include an "all states" endorsement. The CONTRACTOR shall require each Subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such WORK unless such employees are covered by the protection afforded by the CONTRACTOR's Workers' Compensation Insurance. In case any class of employees is not protected, under the Workers' Compensation Statute, the CONTRACTOR shall provide and shall cause each Subcontractor to provide adequate employer's liability insurance for the protection of such of its employees as are not otherwise protected.
 - 2. Commercial General Liability. This insurance shall be written in comprehensive form and shall protect the CONTRACTOR against all claims arising from injuries to persons other than its employees or damage to property of the OWNER or others arising out of any act or omission of the CONTRACTOR or its agents, employees, or Subcontractors. The policy shall contain no exclusions for any operations within the scope of this contract.
 - 3. Comprehensive Automobile Liability. This insurance shall be written in comprehensive form and shall protect the CONTRACTOR against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the site of all motor vehicles

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licensed for highway use, whether they are owned, non-owned, or hired. Coverage for hired motor vehicles should include endorsement covering liability assumed under this Agreement.

4. Subcontractor's Commercial General Liability Insurance and Commercial Automobile Liability Insurance. The CONTRACTOR shall either require each of its Subcontractors to procure and to maintain Subcontractor's Commercial General Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amounts specified in the Supplementary General Conditions or insure the activities of its Subcontractors in the CONTRACTOR's own policy, in like amount.
5. Builder's Risk. This insurance shall be of the "all risks" type, shall be written in completed value form, and shall protect the CONTRACTOR, the OWNER, and the ENGINEER, against risks of damage to buildings, structures, and materials and equipment. The amount of such insurance shall be not less than the insurable value of the WORK at completion. Builder's risk insurance shall provide for losses to be payable to the CONTRACTOR and the OWNER, as their interests may appear. The policy shall contain a provision that in the event of payment for any loss under the coverage provided, the insurance company shall have no rights of recovery against the CONTRACTOR, the OWNER, and the ENGINEER. The Builder's Risk policy shall insure against all risks of direct physical loss or damage to property from any external cause including flood and earthquake. Allowable exclusions, if any, shall be as specified in the Supplementary General Conditions.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

6.1 SUPERVISION AND SUPERINTENDENCE

- A. The CONTRACTOR shall supervise, inspect, and direct the WORK competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the WORK in accordance with the Contract Documents. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incidental thereto. The CONTRACTOR shall be responsible to see that the completed WORK complies accurately with the Contract Documents.
- B. The CONTRACTOR shall designate in writing and keep on the WORK site at all times during its progress a technically qualified, English-speaking superintendent, who is an employee of the CONTRACTOR and who shall not be replaced without written notice to the OWNER and the ENGINEER. The superintendent will be the CONTRACTOR's representative at the site and shall have authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall issue all its communications to the OWNER through the ENGINEER and the ENGINEER only.
- C. The CONTRACTOR's superintendent shall be present at the site of the WORK at all times while WORK is in progress. Failure to observe this requirement shall be considered suspension of the WORK by the CONTRACTOR until such time as such superintendent is again present at the site.

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6.2 LABOR, MATERIALS, AND EQUIPMENT

- A. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the WORK and perform construction as required by the Contract Documents. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and any temporary works as may be required. The CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the WORK or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all WORK at the site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday, or any legal holiday without the OWNER's written consent. The CONTRACTOR shall apply for this consent through the ENGINEER.
- B. Except as otherwise provided in this Paragraph, the CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of 8 hours in any one calendar day or 40 hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing. Additional compensation will be paid the CONTRACTOR for overtime work only in the event extra work is ordered by the ENGINEER and the Change Order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the CONTRACTOR for overtime work of a similar nature in the same locality.
- C. All costs of inspection and testing performed during overtime work by the CONTRACTOR which is allowed solely for the convenience of the CONTRACTOR shall be borne by the CONTRACTOR. The OWNER shall have the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the CONTRACTOR.
- D. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the WORK.
- E. All materials and equipment to be incorporated into the WORK shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of the OWNER. If required by the ENGINEER, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provisions of any such instructions will be effective to assign to the ENGINEER, or any of the ENGINEER consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraphs 9.9C and 9.9D.
- F. The CONTRACTOR shall at all times employ sufficient labor and equipment for prosecuting the several classes of WORK to full completion in the manner and time set forth in and required by these specifications. All workers shall have sufficient skill and experience to perform properly the WORK assigned to them. Workers engaged in special WORK, or

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skilled WORK, shall have sufficient experience in such WORK and in the operation of the equipment required to perform all WORK, properly and satisfactorily.

- G. Any person employed by the CONTRACTOR or by any Subcontractor who, in the opinion of the ENGINEER, does not perform the WORK in a proper and skillful manner, or is intemperate or disorderly shall, at the written request of the ENGINEER, be removed forthwith by the CONTRACTOR or Subcontractor employing such person, and shall not be employed again in any portion of the WORK without the approval of the ENGINEER. Should the CONTRACTOR fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the WORK, the ENGINEER may suspend the WORK by written notice until such orders are complied with.
- 6.3 **ADJUSTING PROGRESS SCHEDULE.** The CONTRACTOR shall submit monthly updates of the progress schedule to the ENGINEER for acceptance in accordance with the provisions in Section 01300 - CONTRACTOR Submittals in the General Requirements.
- 6.4 **SUBSTITUTES OR "OR-EQUAL" ITEMS.** The CONTRACTOR shall submit proposed substitutes or "or-equal" items in accordance with the provisions in Section 01300 - CONTRACTOR Submittals in the General Requirements.
- 6.5 **CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS.**
 - A. The CONTRACTOR shall be responsible to the OWNER and the ENGINEER for the acts and omissions of its Subcontractors and their employees to the same extent as CONTRACTOR is responsible for the acts and omissions of its own employees. Nothing contained in this Paragraph shall create any contractual relationship between any Subcontractor and the OWNER or the ENGINEER nor relieve the CONTRACTOR of any liability or obligation under the prime contract.
 - B. The CONTRACTOR shall perform not less than 40% of the WORK with its own forces (i.e., without subcontracting). The 40% requirement shall be understood to mean that the CONTRACTOR shall perform, with its own organization, WORK amounting to at least 40% of the awarded contract amount. The 40% requirement will be calculated based upon the total of the subcontract amounts submitted for contract award, and any other information requested by the OWNER from the apparent low bidder.
- 6.6 **PERMITS**
 - A. Unless otherwise provided in the Supplementary General Conditions, the CONTRACTOR shall obtain and pay for all construction permits and licenses from the agencies having jurisdiction, including the furnishing of insurance and bonds if required by such agencies. The enforcement of such requirements under this contract shall not be made the basis for claims for additional compensation. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the WORK, which are applicable at the time of opening of Bids. The CONTRACTOR shall pay all charges of utility owners for connections to the WORK.
 - B. These Contract Documents may require that the WORK be performed within the conditions and/or requirements of local, state and/or federal permits. These permits may be bound within the Contract Documents, included within the Contract Documents by reference, or

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included as part of the WORK, as designated in this Section. The CONTRACTOR is responsible for completing the WORK required for compliance with all permit requirements; this WORK is incidental to other items in the Contract Documents. Any reference to the PERMITTEE in the permits shall mean the CONTRACTOR. If any permits were acquired by the OWNER, this action was done to expedite the start of construction. If the CONTRACTOR does not complete the WORK within the specified permit window, the CONTRACTOR shall be responsible for the permit extension, and for completing any additional requirements placed upon the permit.

- C. The OWNER shall apply for, and obtain, the necessary building permit for this Project, however, the CONTRACTOR is responsible for scheduling and coordinating all necessary inspections. The CBJ Inspection number is 586-1703. All other provisions of this Section remain in effect.
- 6.7 PATENT FEES AND ROYALTIES. The CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the WORK or the incorporation in the WORK of any invention, design, process, product, software or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the WORK and if to the actual knowledge of the OWNER or the ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the OWNER in the Contract Documents. The CONTRACTOR shall indemnify, defend and hold harmless the OWNER and the ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees and court costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the WORK or resulting from the incorporation in the WORK of any invention, design, process, product, or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.
- 6.8 LAWS AND REGULATIONS. The CONTRACTOR shall observe and comply with all federal, state, and local laws, ordinances, codes, orders, and regulations which in any manner affect those engaged or employed on the WORK, the materials used in the WORK, or the conduct of the WORK. If any discrepancy or inconsistency should be discovered in this contract in relation to any such law, ordinance, code, order, or regulation, the CONTRACTOR shall report the same in writing to the ENGINEER. The CONTRACTOR shall indemnify, defend, and hold harmless the OWNER, the ENGINEER, and their officers, agents, and employees against all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by CONTRACTOR or by its employees, Subcontractors, or third parties. Any particular law or regulation specified or referred to elsewhere in the Contract Documents shall not in any way limit the obligation of the CONTRACTOR to comply with all other provisions of federal, state, and local laws and regulations. The OWNER may, per AS 36.30, audit the CONTRACTOR's or Subcontractor(s) records that are related to the cost or pricing data for this contract, all related Change Orders, and/or contract modifications.
- 6.9 TAXES. The CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by the CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the WORK.
- 6.10 USE OF PREMISES. The CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to (1) the Project site, (2) the land and areas identified in and permitted by the Contract Documents, and (3) the other land and areas permitted by

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Laws and Regulations, rights-of-way, permits, leases and easements. The CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the WORK. Should any claim be made against the OWNER or the ENGINEER by any such owner or occupant because of the performance of the WORK, the CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim through litigation. The CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify, defend, and hold the OWNER and the ENGINEER harmless from and against all claims, damages, losses, and expenses (including, but not limited to, fees of engineers attorneys, and other professionals and court costs) arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any such owner or occupant against the OWNER, the ENGINEER, their Consultants, Sub-consultants, and the officers, directors, employees and agents of each and any of them to the extent caused by or based upon the CONTRACTOR's performance of the WORK.

6.11 SAFETY AND PROTECTION

- A. The CONTRACTOR shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all employees on the WORK and other persons and organizations who may be affected thereby;
 - 2. all the WORK and materials and equipment to be incorporated therein, whether in storage on or off the site; and
 - 3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- B. The CONTRACTOR shall comply with all applicable Laws and Regulations whether referred to herein or not) of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the WORK may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. The CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and program.
- D. Materials that contain hazardous substances or mixtures may be required on the WORK. A Material Safety Data Sheet shall be requested by the CONTRACTOR from the manufacturer of any hazardous product used.
- E. Material usage shall be accomplished with strict adherence to all safety requirements and all manufacturer's warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.
- F. The CONTRACTOR shall be responsible for coordinating communications on any exchange of Material Safety Data Sheets or other hazardous material information that is required to be

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made available to, or exchanged between, or among, employers at the site in accordance with Laws or Regulations.

- G. The CONTRACTOR shall notify the ENGINEER if it considers a specified product or its intended usage to be unsafe. This notification must be given to the ENGINEER prior to the product being ordered, or if provided by some other party, prior to the product being incorporated in the WORK.

6.12 SHOP DRAWINGS AND SAMPLES

- A. After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, the CONTRACTOR shall submit to the ENGINEER for review, all Shop Drawings in accordance with Section 01300 - CONTRACTOR Submittals in the General Requirements.
- B. The CONTRACTOR shall also submit to the ENGINEER for review all samples in accordance with Section 01300 - CONTRACTOR Submittals in the General Requirements.
- C. Before submittal of each shop drawing or sample, the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the WORK and the Contract Documents.

6.13 CONTINUING THE WORK. The CONTRACTOR shall carry on the WORK and adhere to the progress schedule during all disputes or disagreements with the OWNER. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the CONTRACTOR and the OWNER may otherwise agree in writing.

6.14 INDEMNIFICATION

- A. To the fullest extent permitted by Laws and Regulations, the CONTRACTOR shall indemnify, defend, and hold harmless the OWNER, the ENGINEER, their Consultants, Sub-consultants and the officers, directors, employees, and agents of each and any of them, against and from all claims and liability arising under, by reason of or incidentally to the contract or any performance of the WORK, but not from the sole negligence or willful misconduct of the OWNER, and the ENGINEER. Such indemnification by the CONTRACTOR shall include but not be limited to the following:
 - 1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the CONTRACTOR, its employees, or agents in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, agents, or third parties;
 - 2. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's or Subcontractor's own employees engaged in the WORK resulting in actions brought by or on behalf of such employees against the OWNER, and the ENGINEER;
 - 3. Liability or claims arising directly or indirectly from or based on the violation of any law, ordinance, regulation, order, or decree, whether by the CONTRACTOR, its employees, or agents;

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4. Liability or claims arising directly or indirectly from the use or manufacture by the CONTRACTOR, its employees, or agents in the performance of this contract of any copyrighted or non-copyrighted composition, secret process, patented or non-patented invention, computer software, article, or appliance, unless otherwise specifically stipulated in this contract.
 5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the OWNER or any other parties by the CONTRACTOR, its employees, or agents;
 6. Liabilities or claims arising directly or indirectly from the willful or criminal misconduct of the CONTRACTOR, its employees, or agents; and,
 7. Liabilities or claims arising directly or indirectly from any breach of the obligations assumed herein by the CONTRACTOR.
- B. The CONTRACTOR shall reimburse the ENGINEER and the OWNER for all costs and expenses, (including but not limited to fees and charges of engineers, attorneys, and other professionals and court costs including all costs of appeals) incurred by said OWNER, and the ENGINEER in enforcing the provisions of this Paragraph 6.14.
- C. The indemnification obligation under this Paragraph 6.14 shall not be limited in any way by any limitation of the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any such Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- 6.15 **CONTRACTOR'S DAILY REPORTS.** The CONTRACTOR shall complete a daily report indicating total manpower for each construction trade, major equipment on site, each Subcontractor's manpower, weather conditions, etc., involved in the performance of the WORK. The daily report shall be completed on forms provided by the ENGINEER and shall be submitted to the ENGINEER at the conclusion of each workday. The report should comment on the daily progress and status of the WORK within each major component of the WORK. These components will be decided by the ENGINEER. CONTRACTOR shall record the name, affiliation, time of arrival and departure, and reason for visit for all visitors to the location of the WORK.
- 6.16 **ASSIGNMENT OF CONTRACT.** The CONTRACTOR shall not assign, sublet, sell, transfer, or otherwise dispose of the contract or any portion thereof, or its right, title, or interest therein, or obligations thereunder, without the written consent of the OWNER except as imposed by law. If the CONTRACTOR violates this provision, the contract may be terminated at the option of the OWNER. In such event, the OWNER shall be relieved of all liability and obligations to the CONTRACTOR and to its assignee or transferee, growing out of such termination.
- 6.17 **CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES.** It is understood that any turn-on or turn-off, line locates and any other work or assistance necessary by the CBJ Water Utilities Division, will be at the CONTRACTOR's expense unless otherwise stated in the bid documents. All cost must be agreed to prior to any related actions, and will be considered incidental to the project cost. Billing to the CONTRACTOR will be direct from the CBJ Water Utilities Division.
- 6.18 **OPERATING WATER SYSTEM VALVES**
- A. The CONTRACTOR shall submit a written request, to the ENGINEER, for approval to operate any valve on any in-service section of the CBJ water system. The request must be submitted at least 24-hours prior to operating any valves. The CBJ Water Utilities Division

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reserves the right to approve or deny the request. The request shall specifically identify each valve to be operated, the time of operation, and the operation to be performed. The CONTRACTOR shall obtain the written approval of the ENGINEER for any scheduled operation before operating any valve.

- B. The CONTRACTOR shall be responsible for all damages, both direct and consequential, to the City or any other party, caused by unauthorized operation of any valve of the CBJ water system.

- 6.19 **CONTRACTOR'S WORK SCHEDULE LIMITATIONS.** Construction of Buildings and Projects. It is unlawful to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or similar heavy construction equipment before 7:00 a.m. or after 10:00 p.m., Monday through Friday, or before 9:00 a.m. or after 10:00 p.m., Saturday and Sunday, unless a permit shall first be obtained from the City and Borough Building Official. Such permit shall be issued by the Building Official only upon a determination that such operation during hours not otherwise permitted hereunder is necessary and will not result in unreasonable disturbance to surrounding residents.

ARTICLE 7 OTHER WORK

7.1 RELATED WORK AT SITE

- A. The OWNER may perform other work related to the Project at the site by the OWNER's own forces, have other work performed by utility owners, or let other direct contracts therefor which may contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work.
- B. The CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (or the OWNER, if the OWNER is performing the additional work with the OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the WORK with theirs. The CONTRACTOR shall do all cutting, fitting, and patching of the WORK that may be required to make its several parts come together properly and integrate with such other work. The CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and the others whose work will be affected.
- C. If the proper execution or results of any part of the CONTRACTOR's work depends upon the work of any such other contractor or utility owner (or OWNER), the CONTRACTOR shall inspect and report to the ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to report such delays, defects, or deficiencies will constitute an acceptance of the other work as fit and proper for integration with the CONTRACTOR's work except for latent or nonapparent defects and deficiencies in the other work.

- 7.2 **COORDINATION.** If the OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary General Conditions, and the specific matters to be covered by such authority and

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responsibility will be itemized and the extent of such authority and responsibilities will be provided in the Supplementary General Conditions.

ARTICLE 8 OWNER'S RESPONSIBILITIES

8.1 COMMUNICATIONS

- A. The OWNER shall issue all its communications to the CONTRACTOR through the ENGINEER.
- B. The CONTRACTOR shall issue all its communications to the OWNER through the ENGINEER.

8.2 PAYMENTS. The OWNER shall make payments to the CONTRACTOR as provided in Paragraphs 14.5, 14.8, 14.9 and 14.10.

8.3 LANDS, EASEMENTS, AND SURVEYS. The OWNER's duties in respect of providing lands and easements and providing surveys to establish reference points are set forth in Paragraphs 4.1 and 4.5.

8.4 CHANGE ORDERS. The OWNER shall execute Change Orders as indicated in Paragraph 10.1F.

8.5 INSPECTIONS AND TESTS. The OWNER's responsibility in respect of inspections, tests, and approvals is set forth in Paragraph 13.3.

8.6 SUSPENSION OF WORK. In connection with the OWNER's right to stop WORK or suspend WORK, see Paragraphs 13.4 and 15.1.

8.7 TERMINATION OF AGREEMENT. Paragraphs 15.2 and 15.3 deal with the OWNER's right to terminate services of the CONTRACTOR.

ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION

9.1 OWNER'S REPRESENTATIVE. The ENGINEER will be the OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER's representative during construction are set forth in the Contract Documents.

9.2 VISITS TO SITE. The ENGINEER will make visits to the site during construction to observe the progress and quality of the WORK and to determine, in general, if the WORK is proceeding in accordance with the Contract Documents. Exhaustive or continuous on-site inspections to check the quality or quantity of the WORK will not be required of the ENGINEER. The ENGINEER will not, during such visits, or as a result of such observations of the CONTRACTOR's WORK in progress, supervise, direct, or have control over the CONTRACTOR's WORK.

9.3 PROJECT REPRESENTATION. The ENGINEER may furnish an Inspector to assist in observing the performance of the WORK. The duties, responsibilities, and limitations of authority are as follows:

- A. Duties, Responsibilities and Limitations of Authority of Inspector

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General. The Inspector, who is the ENGINEER's Agent, will act as directed by and under the supervision of the ENGINEER and will confer with the ENGINEER regarding its actions. The Inspector's dealings in matters pertaining to the on-site WORK shall, in general, be only with the ENGINEER and the CONTRACTOR, and dealings with Subcontractors shall only be through or with the full knowledge of the CONTRACTOR. Written communication with the OWNER will be only through or as directed by the ENGINEER.

Duties and Responsibilities. The Inspector may:

1. Review the progress schedule, list of Shop Drawing submittals and schedule of values prepared by the CONTRACTOR and consult with the ENGINEER concerning their acceptability.
2. Attend pre-construction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with the ENGINEER and notify those expected to attend in advance. Attend meetings and maintain and circulate copies of minutes thereof.
3. Serve as the ENGINEER's liaison with the CONTRACTOR, working principally through the CONTRACTOR's superintendent and assist said superintendent in understanding the intent of the Contract Documents. Assist the ENGINEER in serving as the OWNER's liaison with the CONTRACTOR when the CONTRACTOR's operations affect the OWNER's on-site operations.
4. As requested by the ENGINEER, assist in obtaining from the OWNER additional details or information, when required at the site for proper execution of the WORK.
5. Receive and record date of receipt of Shop Drawings and samples, receive samples which are furnished at the site by the CONTRACTOR and notify the ENGINEER of their availability for examination.
6. Conduct on-site observations of the WORK in progress to assist the ENGINEER in determining if the WORK is proceeding in accordance with the Contract Documents.
7. Report to the ENGINEER whenever the Inspector believes that any WORK is unsatisfactory, faulty, or defective or does not conform to the Contract Documents, or does not meet the requirements of any inspection, tests or approval required to be made or has been damaged prior to final payment; and advise the ENGINEER when the Inspector believes WORK should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection, or approval.
8. Verify that the tests, equipment, and systems startups and operating and maintenance instruction are conducted as required by the Contract Documents and in presence of the required personnel, and that the CONTRACTOR maintains adequate records thereof; observe, record and report to the ENGINEER appropriate details relative to the test procedures and start-ups.
9. Accompany visiting inspectors representing public or other agencies having jurisdiction over the WORK, record the outcome of these inspections, and report to the ENGINEER.
10. Transmit to the CONTRACTOR the ENGINEER's clarifications and interpretations of the Contract Documents.
11. Consider and evaluate the CONTRACTOR's suggestions for modifications in the Contract Documents and report them with recommendations to the ENGINEER.
12. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and sample submittals, reproductions of original Contract Documents including all addenda, Change Orders, field orders, additional Drawings issued subsequent to the execution of the contract, the ENGINEER's clarifications and

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interpretations of the Contract Documents, progress reports, and other related documents.

13. Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions, list all project visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of performing and observing test procedures. Send copies to the ENGINEER.
14. Record names, addresses, and telephone numbers of the CONTRACTOR, Subcontractors, and major suppliers of materials and equipment.
15. Furnish the ENGINEER with periodic reports as required of progress of the WORK and the CONTRACTOR's compliance with the accepted progress schedule and schedule of CONTRACTOR submittals.
16. Consult with the ENGINEER in advance of scheduled major tests, inspections, or start of important phases of the WORK.
17. Report immediately to the ENGINEER upon the occurrence of any accident.
18. Review applications for payment with the CONTRACTOR for compliance with the established procedure for their submittal and forward them with recommendations to the ENGINEER, noting particularly their relation to the schedule of values, WORK completed, and materials and equipment delivered at the site but not incorporated in the WORK.
19. During the course of the WORK, verify that certificates, maintenance and operation manuals, and other data required to be assembled and furnished by the CONTRACTOR are applicable to the items actually installed; and deliver this material to the ENGINEER for its review and forwarding to the OWNER prior to final acceptance of the WORK.
20. Before the ENGINEER prepares a Certificate of Substantial Completion/Notice of Completion, as applicable, review the CONTRACTOR's punch list items requiring completion or correction and add any items that CONTRACTOR has omitted.
21. Conduct final inspection in the company of the ENGINEER, the OWNER, and the CONTRACTOR, and prepare a final punch list of items to be completed or corrected.
22. Verify that all items on the punch list have been completed or corrected and make recommendations to the ENGINEER concerning acceptance.

Limitations of Authority. Except upon written instruction of the ENGINEER, the Inspector:

1. Shall not authorize any deviation from the Contract Documents or approve any substitute material or equipment.
2. Shall not exceed limitations on the ENGINEER's authority as set forth in the Contract Documents.
3. Shall not undertake any of the responsibilities of the CONTRACTOR, Subcontractors or CONTRACTOR's superintendent, or expedite the WORK.
4. Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences, or procedures of construction unless such is specifically called for in the Contract Documents.
5. Shall not advise on or issue directions as to safety precautions and programs in connection with the WORK.

9.4 CLARIFICATIONS AND INTERPRETATIONS. The ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as the ENGINEER may determine necessary, which shall be consistent with, or reasonably inferred from, the overall intent of the Contract Documents.

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- 9.5 **AUTHORIZED VARIATIONS IN WORK.** The ENGINEER may authorize variations in the WORK from the requirements of the Contract Documents. These may be accomplished by a Field Order and will require the CONTRACTOR to perform the WORK involved in a manner that minimizes the impact to the WORK and the contract completion date. If the CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time, the CONTRACTOR may make a claim therefor as provided in Article 11 or 12.
- 9.6 **REJECTING DEFECTIVE WORK.** The ENGINEER will have authority to reject WORK which the ENGINEER believes to be defective and will also have authority to require special inspection or testing of the WORK as provided in Paragraph 13.3G, whether or not the WORK is fabricated, installed, or completed.
- 9.7 **CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS**
- A. In accordance with the procedures set forth in the General Requirements, the ENGINEER will review all CONTRACTOR submittals, including Shop Drawings, samples, substitutes, or "or equal" items, etc., in order to determine if the items covered by the submittals will, after installation or incorporation in the WORK, conform to the requirements of the Contract Documents and be compatible with the design concept of the completed project as a functioning whole as indicated by the Contract Documents. The ENGINEER's review will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto.
 - B. In connection with the ENGINEER's responsibilities as to Change Orders, see Articles 10, 11, and 12.
 - C. In connection with the ENGINEER's responsibilities in respect of Applications for Payment, see Article 14.
- 9.8 **DECISIONS ON DISPUTES**
- A. The ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the WORK thereunder. Claims, disputes, and other matters relating to the acceptability of the WORK; the interpretation of the requirements of the Contract Documents pertaining to the performance of the WORK; and those claims under Articles 11 and 12 in respect to changes in the Contract Price or Contract Time will be referred initially to the ENGINEER in writing with a request for formal decision in accordance with this paragraph, which the ENGINEER will render in writing within 30 days of receipt of the request. Written notice of each such claim, dispute, and other matter will be delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 30 days) after the occurrence of the event giving rise thereto. Written supporting data will be submitted to the ENGINEER within 60 days after such occurrence unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.
 - B. The rendering of a decision by the ENGINEER with respect to any such claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 14.12) will be a condition precedent to any exercise by the OWNER or the CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Law or Regulations in respect of any such claim, dispute, or other matter.

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9.9 LIMITATION ON ENGINEER'S RESPONSIBILITIES

- A. Neither the ENGINEER's authority to act under this Article or other provisions of the Contract Documents nor any decision made by the ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any Supplier, any surety for any of them, or any other person or organization performing any of the WORK.
- B. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as reviewed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of the ENGINEER as to the WORK, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the WORK for compliance with the requirements of the Contract Documents, and conformance with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the ENGINEER any duty or authority to supervise or direct the performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9C or 9.9D.
- C. The ENGINEER will not supervise, direct, control, or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations, applicable to the performance of the WORK. The ENGINEER will not be responsible for the CONTRACTOR's failure to perform the WORK in accordance with the Contract Documents.
- D. The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR nor of any Subcontractor, supplier, or any other person or organization performing any of the WORK.

ARTICLE 10 CHANGES IN THE WORK

10.1 GENERAL

- A. Without invalidating the Agreement and without notice to any surety, the OWNER may at any time or from time to time, order additions, deletions, or revisions in the WORK; these will be authorized by a written Field Order and/or a Change Order issued by the ENGINEER.
- B. If the CONTRACTOR believes that it is entitled to an increase or decrease in the Contract Price, or an extension or shortening in the Contract Time as the result of a Field Order, a claim may be made as provided in Articles 11 and 12.
- C. If the OWNER and CONTRACTOR agree on the value of any work, or the amount of Contract Time that should be allowed as a result of a Field Order, upon receiving written notice from the ENGINEER, the CONTRACTOR shall proceed so as to minimize the impact on and delays to the work pending the issuance of a Change Order.

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- D. If the OWNER and the CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Field Order, the ENGINEER can direct the CONTRACTOR to proceed on the basis of Time and Materials so as to minimize the impact on and delays to WORK, and a claim may be made therefor as provided in Articles 11 and 12.
- E. The CONTRACTOR shall not be entitled to an increase in the Contract Price nor an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified, supplemented by Change Order, except in the case of an emergency and except in the case of uncovering work as provided in Paragraph 13.3G.
- F. The OWNER and the CONTRACTOR shall execute appropriate Change Orders covering:
 - 1. changes in the WORK which are ordered by the OWNER pursuant to Paragraph 10.1A;
 - 2. changes required because of acceptance of Defective WORK under Paragraph 13.7;
 - 3. changes in the Contract Price or Contract Time which are agreed to by the parties; or
 - 4. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by the ENGINEER pursuant to Paragraph 9.8.
- G. If notice of any change is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable Bond shall be adjusted accordingly.

10.2 ALLOWABLE QUANTITY VARIATIONS

- A. In the event of an increase or decrease in Bid item quantity of a unit price contract, the total amount of WORK actually done or materials or equipment furnished shall be paid for according to the unit price established for such WORK under the Contract Documents, wherever such unit price has been established; provided, that an adjustment in the Contract Price may be made for changes which result in an increase or decrease in excess of 25% of the estimated quantity of any major item of the WORK. Major Item is defined as any bid item amount that is ten percent (10%) or more of the total contract amount.
- B. In the event a part of the WORK is to be entirely eliminated and no lump sum or unit price is named in the Contract Documents to cover such eliminated work, the price of the eliminated work shall be agreed upon in writing by the OWNER and the CONTRACTOR. If the OWNER and the CONTRACTOR fail to agree upon the price of the eliminated work, said price shall be determined in accordance with the provisions of Article 11.

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.1 GENERAL

- A. The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the WORK. All duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR to complete the WORK shall be at its expense without change in the Contract Price.

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- B. The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 7 days) after the start of the occurrence or the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within 14 days after such occurrence (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by the ENGINEER in accordance with Paragraph 9.8A if the OWNER and the CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph 11.1B.
- C. The value of any WORK covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:
1. Where the WORK involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
 2. By mutual acceptance of a lump sum, which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.4.
 3. On the basis of the cost of WORK (determined as provided in Paragraphs 11.3) plus a CONTRACTOR's fee for overhead and profit (determined as provided in Paragraph 11.4).

11.2 COSTS RELATING TO WEATHER. The CONTRACTOR shall have no claims against the OWNER for damages for any injury to WORK, materials, or equipment, resulting from the action of the elements. If, however, in the opinion of the ENGINEER, the CONTRACTOR has made all reasonable efforts to protect the materials, equipment and work, the CONTRACTOR may be granted a reasonable extension of Contract Time to make proper repairs, renewals, and replacements of the work, materials, or equipment.

11.3 COST OF WORK (BASED ON TIME AND MATERIALS)

- A. General. The term "cost of work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR for labor, materials, and equipment in the proper performance of extra work. Except as otherwise may be agreed to in writing by the OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.5 EXCLUDED COSTS.
- B. Labor. The costs of labor will be the actual cost for wages prevailing for each craft or type of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, worker's compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. Labor costs for equipment operators and helpers shall be paid only when such costs are not included in the invoice for equipment rental. The labor costs for forepersons shall be proportioned to all of their assigned work and only that applicable to extra work shall be paid. Non-direct labor costs including superintendence shall be considered part of the mark-up set out in paragraph 11.4.

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- C. Materials. The cost of materials reported shall be at invoice or lowest current price at which materials are locally available and delivered to the job in the quantities involved, plus the cost of freight, delivery and storage, subject to the following:
1. Trade discounts available to the purchaser shall be credited to the OWNER notwithstanding the fact that such discounts may not have been taken by the CONTRACTOR.
 2. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the ENGINEER. Mark-up except for actual costs incurred in the handling of such materials will not be allowed.
 3. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on extra work items or the current wholesale price for such materials delivered to the work site, whichever price is lower.
 4. If in the opinion of the ENGINEER the cost of material is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such material, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the work site less trade discount. The OWNER reserves the right to furnish materials for the extra work and no claim shall be allowed by the CONTRACTOR for costs and profit on such materials.
- D. Equipment. The CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the Supplementary General Conditions. Such rental rate will be used to compute payments for equipment whether the equipment is under the CONTRACTOR's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment shall be the rate resulting in the least total cost to the OWNER for the total period of use. If it is deemed necessary by the CONTRACTOR to use equipment not listed in the publication specified in the Supplementary General Conditions, an equitable rental rate for the equipment will be established by the ENGINEER. The CONTRACTOR may furnish cost data which might assist the ENGINEER in the establishment of the rental rate.
1. All equipment shall, in the opinion of the ENGINEER, be in good working condition and suitable for the purpose for which the equipment is to be used.
 2. Before construction equipment is used on the extra work, the CONTRACTOR shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the ENGINEER, in duplicate, a description of the equipment and its identifying number.
 3. Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.
 4. Individual pieces of equipment or tools having a replacement value of \$200 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor.
 5. Rental time will not be allowed while equipment is inoperative due to breakdowns.
 6. Equipment Rental Rates. Unless otherwise agreed in writing, the CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the current edition of the following reference publication: "Rental Rate Blue Book"

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as published by Dataquest (a company of the Dunn and Bradstreet Corporation), 1290 Ridder Park Drive, San Jose, CA 95131, telephone number (800) 227-8444.

- E. Equipment on the Work Site. The rental time to be paid for equipment on the work site shall be the time the equipment is in productive operation on the extra work being performed and, in addition, shall include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the extra work, even though located at the site of the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transporting costs when the equipment is used at the site of the extra work on other than the extra work. The following shall be used in computing the rental time of equipment on the work site.
1. When hourly rates are listed, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
 2. When daily rates are listed, any part of a day less than 4 hours operation shall be considered to be 1/2-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a time and materials basis, the CONTRACTOR will be paid for the equipment and operator, as set forth in Paragraphs (3), (4), and (5), following.
 3. Payment for the equipment will be made in accordance with the provisions in Paragraph 11.3D, herein.
 4. Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already on the work site, or in the absence of such labor, established by collective bargaining agreements for the type of worker and location of the extra work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein in accordance with the provisions of Paragraph 11.3B, herein, which surcharge shall constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages.
 5. To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Paragraph 11.4, herein.
- F. Specialty Work. Specialty work is defined as that work characterized by extraordinary complexity, sophistication, or innovation or a combination of the foregoing attributes which are unique to the construction industry. The following shall apply in making estimates for payment for specialty work:
1. Any bid item of WORK to be classified as Specialty Work shall be listed as such in the Supplementary General Conditions. Specialty work shall be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the ENGINEER, invoices for specialty work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs.
 2. When the CONTRACTOR is required to perform work necessitating special fabrication or machining process in a fabrication or a machine shop facility away from

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the job site, the charges for that portion of the work performed at the off-site facility may, by agreement, be accepted as specialty work and accordingly, the invoices for the work may be accepted without detailed itemization.

3. All invoices for specialty work will be adjusted by deducting all trade discounts offered or available, whether the discounts were taken or not. In lieu of the allowances for overhead and profit specified in Paragraph 11.4, herein, an allowance of 5 percent will be added to invoices for specialty work.

- G. Sureties. All work performed hereunder shall be subject to all of the provisions of the Contract Documents and the CONTRACTOR's sureties shall be bound with reference thereto as under the original Agreement. Copies of all amendments to surety bonds or supplemental surety bonds shall be submitted to the OWNER for review prior to the performance of any work hereunder.

11.4 CONTRACTOR'S FEE

- A. Extra work ordered on the basis of time and materials will be paid for at the actual necessary cost as determined by the ENGINEER, plus allowances for overhead and profit. The allowance for overhead and profit shall include full compensation for superintendence, bond and insurance premiums, taxes, field office expense, extended overhead, home office overhead, and all other items of expense or cost not included in the cost of labor, materials, or equipment provided for under Paragraph 11.3. The allowance for overhead and profit will be made in accordance with the following schedule:

Actual Overhead and Profit Allowance

Labor	15 percent
Materials	10 percent
Equipment	10 percent

To the sum of the costs and mark-ups provided for in this Article, one percent shall be added as compensation for bonding.

- B. It is understood that labor, materials, and equipment may be furnished by the CONTRACTOR or by the Subcontractor on behalf of the CONTRACTOR. When all or any part of the extra work is performed by a Subcontractor, the allowance specified herein shall be applied to the labor, materials, and equipment costs of the Subcontractor, to which the CONTRACTOR may add 5 percent of the Subcontractor's total cost for the extra work. Regardless of the number of hierarchical tiers of Subcontractors, the 5 percent increase above the Subcontractor's total cost which includes the allowances for overhead and profit specified herein may be applied one time only.

11.5 EXCLUDED COSTS. The term "Cost of the Work" shall not include any of the following:

- A. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, estimators, attorneys' auditors, accountants, purchasing and contracting agents, expenditures, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the work, or not specifically covered by paragraph 11.3, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

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- B. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.
- C. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the WORK and charges against CONTRACTOR for delinquent payments.
- D. Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by paragraph 11.4 above).
- E. Costs due to the negligence of CONTRACTOR , any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective WORK, disposal of materials or equipment wrongly supplied and making good any damage to property.
- F. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in paragraph 11.4.

ARTICLE 12 CHANGE OF CONTRACT TIME

12.1 GENERAL

- A. The Contract Time may only be changed by a Change Order. Any claim for an extension of the Contract Time (or Milestones) shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 30 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within 60 days after such occurrence (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by the ENGINEER in accordance with Paragraph 9.8 if the OWNER and the CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this Paragraph 12.1A. An increase in Contract Time does not mean that the Contractor is due an increase in Contract Price. Only compensable time extensions will result in an increase in Contract Price.
- B. All time limits stated in the Contract Documents are of the essence of the Agreement.
- C. Where CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost on the critical path of the project due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, unprecedented weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

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- D. Where CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost on the critical path of the project due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall the OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of CONTRACTOR, or (ii) delays beyond the control of both parties including but not limited to fires, floods, epidemics abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

- 12.2 EXTENSIONS OF TIME FOR DELAY DUE TO WEATHER. Contract Time may be extended by the ENGINEER because of delays in completion of the WORK due to unusually severe weather, provided that the CONTRACTOR shall, within 10 days of the beginning of any such delay, notify the ENGINEER in writing of the cause of delay and request an extension of Contract Time. The ENGINEER will ascertain the facts and the extent of the delay and extend the time for completing the work when, in the ENGINEER's judgment, the findings of fact justify such an extension. Unprecedented, abnormal, or unusually severe weather will be defined as an event, or events, with a greater than 50-year recurrence interval, as determined by the National Weather Service, or equivalent State or Federal agency

ARTICLE 13 WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

- 13.1 WARRANTY AND GUARANTEE. The CONTRACTOR warrants and guarantees to the OWNER and the ENGINEER that all work will be in accordance with the Contract Documents and will not be defective. Prompt notice of defects known to the OWNER or ENGINEER shall be given to the CONTRACTOR. All defective work, whether or not in place, may be rejected, corrected, or accepted as provided in this Article 13.
- 13.2 ACCESS TO WORK. OWNER, ENGINEER, their Consultants, sub-consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the WORK at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.
- 13.3 TESTS AND INSPECTIONS
- A. The CONTRACTOR shall give the ENGINEER timely notice of readiness of the WORK for all required inspections, tests, or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. If Laws or Regulations of any public body having jurisdiction other than the OWNER require any WORK to specifically be inspected, tested, or approved, the CONTRACTOR shall pay all costs in connection therewith. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with the OWNER's or the ENGINEER's acceptance of a Supplier of materials or equipment proposed as a substitution or (or-equal) to be incorporated in the WORK, or of materials or equipment submitted for review prior to the CONTRACTOR's purchase thereof for

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incorporation in the WORK. The cost of all inspections, tests, and approvals in addition to the above which are required by the Contract Documents shall be paid by the OWNER (unless otherwise specified).

- C. The ENGINEER will make, or have made, such inspections and tests as the ENGINEER deems necessary to see that the WORK is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified in the Supplementary General Conditions, the cost of such inspection and testing will be borne by the OWNER. In the event such inspections or tests reveal non-compliance with the requirements of the Contract Documents, the CONTRACTOR shall bear the cost of corrective measures deemed necessary by the ENGINEER, as well as the cost of subsequent reinspection and retesting. Neither observations by the ENGINEER nor inspections, tests, or approvals by others shall relieve the CONTRACTOR from the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.
 - D. All inspections, tests, or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to the ENGINEER and the CONTRACTOR.
 - E. If any WORK (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the ENGINEER timely notice of the CONTRACTOR's intention to perform such test or to cover the same and the ENGINEER has not acted with reasonable promptness in response to such notice.
 - F. If any WORK is covered contrary to the written request of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER's observation and recovered at the CONTRACTOR's expense.
 - G. If the ENGINEER considers it necessary or advisable that covered WORK be observed by the ENGINEER or inspected or tested by others, the CONTRACTOR, at the ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, material, and equipment. If it is found that such WORK is defective, the CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to fees and charges of engineers, attorneys, and other professionals. However, if such WORK is not found to be defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, the CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.
- 13.4 OWNER MAY STOP THE WORK. If the WORK is defective, or the CONTRACTOR fails to perform work in such a way that the completed WORK will conform to the Contract Documents, the OWNER may order the CONTRACTOR to stop the WORK, or any portion thereof, until the cause for such order has been eliminated; however, this right of the OWNER to stop the WORK shall not give rise to any duty on the part of the OWNER to exercise this right for the benefit of the CONTRACTOR or any other party.

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- 13.5 **CORRECTION OR REMOVAL OF DEFECTIVE WORK.** If required by the ENGINEER, the CONTRACTOR shall promptly, either correct all defective work, whether or not fabricated, installed, or completed, or, if the WORK has been rejected by the ENGINEER, remove it from the site and replace it with non-defective work. The CONTRACTOR shall bear all direct, indirect and consequential costs and damages of such correction or removal, including but not limited to fees and charges of engineers, attorneys, and other professionals made necessary thereby.
- 13.6 **ONE YEAR CORRECTION PERIOD**
- A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, the CONTRACTOR shall promptly, without cost to the OWNER and in accordance with OWNER's written notification, (i) correct such Defective WORK, or, if it has been rejected by the OWNER, remove it from the site and replace it with non-defective work, and (ii) satisfactorily correct or remove and replace any damage to other work of others resulting therefrom. If the CONTRACTOR does not promptly comply with such notification, or in an emergency where delay would cause serious risk of loss or damage, the OWNER may have the Defective WORK corrected or the rejected WORK removed and replaced, and all direct, indirect, and consequential costs and damages of such removal and replacement including but not limited to fees and charges of engineers, attorneys and other professionals will be paid by the CONTRACTOR.
- B. Where Defective WORK (and damage to other WORK resulting therefrom) has been corrected, removed or replaced under this paragraph 13.6, the correction period hereunder with respect to such WORK will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- 13.7 **ACCEPTANCE OF DEFECTIVE WORK.** If, instead of requiring correction or removal and replacement of defective work, the OWNER prefers to accept the WORK, the OWNER may do so. The CONTRACTOR shall bear all direct, indirect, and consequential costs attributable to the OWNER's evaluation of and determination to accept such defective work. If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the OWNER shall be entitled to an appropriate decrease in the Contract Price.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

- 14.1 **SCHEDULE OF VALUES (LUMP SUM PRICE BREAKDOWN).** The schedule of values or lump sum price breakdown established as provided in the General Requirements shall serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the ENGINEER.
- 14.2 **UNIT PRICE BID SCHEDULE.** Progress payments on account of Unit Price work will be based on the number of units completed.
- 14.3 **APPLICATION FOR PROGRESS PAYMENT**
- A. Unless otherwise prescribed by law, on the 25th of each month, the CONTRACTOR shall submit to the ENGINEER for review, an Application for Payment filled out and signed by

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the CONTRACTOR covering the WORK completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

- B. The Application for Payment shall identify, as a sub-total, the amount of the CONTRACTOR'S Total Earnings to Date, plus the Value of Materials Stored at the Site which have not yet been incorporated in the WORK, and less a deductive adjustment for materials installed which were not previously incorporated in the WORK, but for which payment was allowed under the provisions for payment for Materials Stored at the Site, but not yet incorporated in the WORK.
- C. The Net Payment Due the CONTRACTOR shall be the above-mentioned subtotal from which shall be deducted the total amount of all previous payments made to the CONTRACTOR. Progress payments will be paid in full in accordance with Article 14 of the General Conditions until 90% of the Contract Price has been paid. The remaining 10% of the Contract Price amount may be withheld until:
 - 1. final inspection has been made;
 - 2. completion of the Project; and
 - 3. acceptance of the Project by the OWNER.
- D. The Value of Materials Stored at the Site shall be an amount equal to the specified percent of the value of such materials as set forth in the Supplementary General Conditions. Said amount shall be based upon the value of all acceptable materials and equipment not incorporated in the WORK but delivered and suitably stored at the site or at another location agreed to in writing; provided, each such individual item has a value of more than \$5,000.00 and will become a permanent part of the WORK. The Application for Payment shall also be accompanied by an invoice (including shipping), a certification that the materials meet the applicable contract specifications, and any evidence required by the OWNER that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the OWNER's interest therein, all of which will be satisfactory to the OWNER. Payment for materials will not constitute final acceptance. It shall be the CONTRACTOR's responsibility to protect the material from damage, theft, loss, or peril while in storage. Unless otherwise prescribed by law, the Value of Materials Stored at the Site shall be paid at the invoice amount up to a maximum of 85% of the Contract Price for those items.

14.4 CONTRACTOR'S WARRANTY OF TITLE. The CONTRACTOR warrants and guarantees that title to all work, materials, and equipment covered by an Application for Payment, whether incorporated in the WORK or not, will pass to the OWNER no later than the time of payment free and clear of all liens.

14.5 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. The ENGINEER will, within 7 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to the OWNER, or return the Application to the CONTRACTOR indicating in writing the ENGINEER's reasons for refusing to recommend payment. In the later case, the CONTRACTOR may make the necessary corrections and resubmit the Application. If the ENGINEER still disagrees with a portion of the Application, it will submit the Application recommending the undisputed portion of the Application to the OWNER for payment and provide reasons for recommending non-payment of the disputed amount. Thirty days after

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presentation of the Application for Payment with the ENGINEER's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.5B) become due and when due will be paid by the OWNER to the CONTRACTOR.

- B. The OWNER may refuse to make payment of the full amount recommended by the ENGINEER because claims have been made against the OWNER on account of the CONTRACTOR's performance of the WORK or Liens have been filed in connection with the WORK or there are other items entitling the OWNER to a credit against the amount recommended, but the OWNER must give the CONTRACTOR written notice within 7 days (with a copy to the ENGINEER) stating the reasons for such action.

14.6 PARTIAL UTILIZATION

- A. The OWNER shall have the right to utilize or place into service any item of equipment or other usable portion of the WORK prior to completion of the WORK. Whenever the OWNER plans to exercise said right, the CONTRACTOR will be notified in writing by the OWNER, identifying the specific portion or portions of the WORK to be so utilized or otherwise placed into service.
- B. It shall be understood by the CONTRACTOR that until such written notification is issued, all responsibility for care and maintenance of all of the WORK shall be borne by the CONTRACTOR. Upon issuance of said written notice of partial utilization, the OWNER will accept responsibility for the protection and maintenance of all such items or portions of the WORK described in the written notice.
- C. The CONTRACTOR shall retain full responsibility for satisfactory completion of the WORK, regardless of whether a portion thereof has been partially utilized by the OWNER and the CONTRACTOR's one year correction period shall commence only after the date of Substantial Completion for the WORK.

- 14.7 SUBSTANTIAL COMPLETION. When the CONTRACTOR considers the WORK ready for its intended use the CONTRACTOR shall notify the OWNER and the ENGINEER in writing that the WORK is substantially complete. The CONTRACTOR will attach to this request a list of all work items that remain to be completed and a request that the ENGINEER prepare a Notice of Completion. Within a reasonable time thereafter, the OWNER, the CONTRACTOR, and the ENGINEER shall make an inspection of the WORK to determine the status of completion. If the ENGINEER does not consider the WORK substantially complete, or the list of remaining work items to be comprehensive, the ENGINEER will notify the CONTRACTOR in writing giving the reasons therefor. If the ENGINEER considers the WORK substantially complete, the ENGINEER will prepare and deliver to the OWNER, for its execution and recording, the Notice of Completion signed by the ENGINEER and CONTRACTOR, which shall fix the date of Substantial Completion.

- 14.8 FINAL APPLICATION FOR PAYMENT. After the CONTRACTOR has completed all of the remaining work items referred to in Paragraph 14.7 and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, record as-built documents (as provided in the General Requirements) and other documents, all as required by the Contract Documents, and after the ENGINEER has indicated that the WORK is acceptable, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to the OWNER) of all liens arising out of or filed in connection with the WORK.

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14.9 FINAL PAYMENT AND ACCEPTANCE

- A. If, on the basis of the ENGINEER's observation of the WORK during construction and final inspection, and the ENGINEER's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, the ENGINEER is satisfied that the WORK has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the ENGINEER will, within 14 days after receipt of the final Application for Payment, indicate in writing the ENGINEER's recommendation of payment and present the Application to the OWNER for payment.
- B. After acceptance of the WORK by the OWNER's governing body, the OWNER will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract Documents, including the following items:
 - 1. Liquidated damages, as applicable.
 - 2. Two times the value of outstanding items of correction work or punch list items yet uncompleted or uncorrected, as applicable. All such work shall be completed or corrected to the satisfaction of the OWNER within the time stated on the Notice of Completion, otherwise the CONTRACTOR does hereby waive any and all claims to all monies withheld by the OWNER to cover the value of all such uncompleted or uncorrected items.

14.10 RELEASE OF RETAINAGE AND OTHER DEDUCTIONS

- A. After executing the necessary documents to initiate the lien period, and not more than 45 days thereafter (based on a 30-day lien filing period and 15-day processing time), the OWNER will release to the CONTRACTOR the retainage funds withheld pursuant to the Agreement, less any deductions to cover pending claims against the OWNER pursuant to Paragraph 14.5B.
- B. After filing of the necessary documents to initiate the lien period, the CONTRACTOR shall have 30 days to complete any outstanding items of correction work remaining to be completed or corrected as listed on a final punch list made a part of the Notice of Completion. Upon expiration of the 45 days, referred to in Paragraph 14.10A, the amounts withheld pursuant to the provisions of Paragraph 14.9B herein, for all remaining work items will be returned to the CONTRACTOR; provided, that said work has been completed or corrected to the satisfaction of the OWNER within said 30 days. Otherwise, the CONTRACTOR does hereby waive any and all claims for all monies withheld by the OWNER under the Contract to cover 2 times the value of such remaining uncompleted or uncorrected items.

- 14.11 CONTRACTOR'S CONTINUING OBLIGATION.** The CONTRACTOR's obligation to perform and complete the WORK in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by the ENGINEER, nor the issuance of a Notice of Completion, nor any payment by the OWNER to the CONTRACTOR under the Contract Documents, nor any use or occupancy of the WORK or any part thereof by the OWNER, nor any act of acceptance by the OWNER nor any failure to do so, nor any review of a Shop Drawing or sample submittal, will constitute an acceptance of work not in accordance with the Contract Documents or a

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release of the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.

- 14.12 FINAL PAYMENT TERMINATES LIABILITY OF OWNER. Final payment is defined as the last progress payment made to the CONTRACTOR for earned funds, less monies withheld as applicable, pursuant to Paragraph 14.10A. The acceptance by the CONTRACTOR of the final payment referred to in Paragraph 14.9 herein, shall be a release of the OWNER and its agents from all claims of liability to the CONTRACTOR for anything done or furnished for, or relating to, the WORK or for any act of neglect of the OWNER or of any person relating to or affecting the WORK, except demands against the OWNER for the remainder, if any, of the amounts kept or retained under the provisions of Paragraph 14.9 herein; and excepting pending, unresolved claims filed prior to the date of the Notice of Completion.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

- 15.1 SUSPENSION OF WORK BY OWNER. The OWNER, acting through the ENGINEER, may, at any time and without cause, suspend the WORK or any portion thereof for a period of not more than 90 days by notice in writing to the CONTRACTOR. The CONTRACTOR shall resume the WORK on receipt from the ENGINEER of a notice of resumption of work. The CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

15.2 TERMINATION OF AGREEMENT BY OWNER (CONTRACTOR DEFAULT)

A. In the event of default by the CONTRACTOR, the OWNER may give 10 days written notice to the CONTRACTOR of OWNER's intent to terminate the Agreement and provide the CONTRACTOR an opportunity to remedy the conditions constituting the default. It shall be considered a default by the CONTRACTOR whenever CONTRACTOR shall: (1) declare bankruptcy, become insolvent, or assign its assets for the benefit of its creditors; (2) fail to provide materials or quality of work meeting the requirements of the Contract Documents; (3) disregard or violate provisions of the Contract Documents or ENGINEER's instructions; (4) fail to prosecute the WORK according to the approved progress schedule; or, (5) fail to provide a qualified superintendent, competent workers, or materials or equipment meeting the requirements of the Contract Documents. If the CONTRACTOR fails to remedy the conditions constituting default within the time allowed, the OWNER may then issue the Notice of Termination.

B. In the event the Agreement is terminated in accordance with Paragraph 15.2A, herein, the OWNER may take possession of the WORK and may complete the WORK by whatever method or means the OWNER may select. The cost of completing the WORK shall be deducted from the balance which would have been due the CONTRACTOR had the Agreement not been terminated and the WORK completed in accordance with the Contract Documents. If such cost exceeds the balance which would have been due, the CONTRACTOR shall pay the excess amount to the OWNER. If such cost is less than the balance which would have been due, the CONTRACTOR shall not have claim to the difference.

- 15.3 TERMINATION OF AGREEMENT BY OWNER (FOR CONVENIENCE). The OWNER may terminate the Agreement at any time if it is found that reasons beyond the control of either the OWNER or CONTRACTOR make it impossible or against the OWNER's interests to complete the

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WORK. In such a case, the CONTRACTOR shall have no claims against the OWNER except: (1) for the value of work performed up to the date the Agreement is terminated; and, (2) for the cost of materials and equipment on hand, in transit, or on definite commitment, as of the date the Agreement is terminated which would be needed in the WORK and which meet the requirements of the Contract Documents. The value of work performed and the cost of materials and equipment delivered to the site, as mentioned above, shall be determined by the ENGINEER in accordance with the procedure prescribed for the making of the final application for payment and payment under Paragraphs 14.8 and 14.9.

- 15.4 **TERMINATION OF AGREEMENT BY CONTRACTOR.** The CONTRACTOR may terminate the Agreement upon 10 days written notice to the OWNER, whenever: 1) the WORK has been suspended under the provisions of Paragraph 15.1, herein, for more than 90 consecutive days through no fault or negligence of the CONTRACTOR, and notice to resume work or to terminate the Agreement has not been received from the OWNER within this time period; or, 2) the OWNER should fail to pay the CONTRACTOR any monies due him in accordance with the terms of the Contract Documents and within 60 days after presentation to the OWNER by the CONTRACTOR of a request therefor, unless within said 10-day period the OWNER shall have remedied the condition upon which the payment delay was based. In the event of such termination, the CONTRACTOR shall have no claims against the OWNER except for those claims specifically enumerated in Paragraph 15.3, herein, and as determined in accordance with the requirements of said paragraph.

ARTICLE 16 MISCELLANEOUS

- 16.1 **GIVING NOTICE.** Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.
- 16.2 **RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK**
- A. The CONTRACTOR may use on the Project, with ENGINEER's approval, such stone, gravel, sand, or other material determined suitable by the ENGINEER, as may be found in the excavation. The CONTRACTOR will be paid for the excavation of such material at the corresponding contract unit price. No additional payment will be made for utilizing the material from excavation as borrow, or select borrow.
 - B. The CONTRACTOR shall replace, at its own expense, with other acceptable material, all of that portion of the excavated material so removed and used which was needed for use on the project. No charge for the materials so used will be made against the CONTRACTOR except that the CONTRACTOR shall be responsible for payment of any royalties required.
 - C. The CONTRACTOR shall not excavate or remove any material from within the Project location which is not within the grading limits, as indicated by the slope and grade lines, without written authorization from the ENGINEER.
 - D. In the event the CONTRACTOR has processed materials from OWNER-furnished sources in excess of the quantities required for performance of this contract, including any waste material produced as a by-product, the CBJ may retain possession of such materials without obligation to reimburse the CONTRACTOR for the cost of their production. When such materials are in a stockpile, the ENGINEER may require: That it remain in stockpile; the

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CONTRACTOR level such stockpile(s); or that the CONTRACTOR remove such materials and restore the premises to a satisfactory condition at the CONTRACTOR's expense. This provision shall not preclude the CBJ from arranging with the CONTRACTOR to produce material over and above the contract needs, payment for which shall be by written agreement between the CBJ and the CONTRACTOR.

- E. Unless otherwise provided, the material from any existing old structure may be used temporarily by the CONTRACTOR in the erection of the new structure. Such material shall not be cut or otherwise damaged except with the approval of the ENGINEER.
- 16.3 **RIGHT TO AUDIT.** If the CONTRACTOR submits a claim to the OWNER for additional compensation, the OWNER shall have the right, as a condition to considering the claim, and as a basis for evaluation of the claim, and until the claim has been settled, to audit the CONTRACTOR's books to the extent they are relevant. This right shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discover and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which the claim has been submitted. The right to audit shall include the right to inspect the CONTRACTOR's plants, or such parts thereof, as may be or have been engaged in the performance of the WORK. The CONTRACTOR further agrees that the right to audit encompasses all subcontracts and is binding upon Subcontractors. The rights to examine and inspect herein provided for shall be exercisable through such representatives as the OWNER deems desirable during the CONTRACTOR's normal business hours at the office of the CONTRACTOR. The CONTRACTOR shall make available to the OWNER for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the OWNER.
- 16.4 **ARCHEOLOGICAL OR HISTORICAL DISCOVERIES.** When the CONTRACTOR's operation encounters prehistoric artifacts, burials, remains of dwelling sites, paleontological remains, such as shell heaps, land or sea mammal bones or tusks, or other items of historical significance, the CONTRACTOR shall cease operations immediately and notify the ENGINEER. No artifacts or specimens shall be further disturbed or removed from the ground and no further operations shall be performed at the site until so directed. Should the ENGINEER order suspension of the CONTRACTOR's operations in order to protect an archaeological or historical finding, or order the CONTRACTOR to perform extra work, such order(s) shall be covered by an appropriate contract change document.
- 16.5 **CONSTRUCTION OVER OR ADJACENT TO NAVIGABLE WATERS.** All work over, on, or adjacent to navigable waters shall be so conducted that free navigation of the waterways will not be interfered with and the existing navigable depths will not be impaired, except as allowed by permit issued the U.S. Coast Guard and/or the U.S. Army Corps of Engineers, as applicable.
- 16.6 **GRATUITY AND CONFLICT OF INTEREST.** The CONTRACTOR agrees to not extend any loan, gratuity or gift of money of any form whatsoever to any employee or elected official of the OWNER, nor will the CONTRACTOR rent or purchase any equipment or materials from any employee or elected official of the OWNER, or to the best of the CONTRACTOR's knowledge, from any agent of any employee or elected official of the OWNER. Before final payment, the CONTRACTOR shall execute and furnish the OWNER an affidavit certifying that the CONTRACTOR has complied with the above provisions of the contract.

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16.7 SUITS OF LAW CONCERNING THE WORK

- A. Should a suit of law be entered into, either by the CONTRACTOR (or the CONTRACTOR's surety) against the OWNER, or by the OWNER against the CONTRACTOR (or the CONTRACTOR's surety), the suit of law shall be tried in the First Judicial District of Alaska.
- B. If one of the questions at issue is the satisfactory performance of the work by the CONTRACTOR and should the appropriate court of law judge the work of the CONTRACTOR to be unsatisfactory, then the CONTRACTOR (or the CONTRACTOR's surety) shall reimburse the OWNER for all legal and all other expenses (as may be allowed and set by the court) incurred by the OWNER because of the suit of the law and, further, it is agreed that the OWNER may deduct such expense from any sum or sums then, or any that become due the CONTRACTOR under the contract.

16.8 CERTIFIED PAYROLLS

- A. All CONTRACTORs or Subcontractor who perform work on a public construction contract for the OWNER shall file a certified payroll with the Alaska Department of Labor before Friday of each week that covers the preceding week (Section 14-2-4 ACLA 1949; am Section 4 ch 142 SLA 1972).
- B. In lieu of submitting the State payroll form, the CONTRACTOR's standard payroll form may be submitted, provided it contains the information required by AS 36.05.040 and a statement that the CONTRACTOR is complying with AS 36.10.010.
- C. A contractor or subcontractor, who performs work on public construction in the State, as defined by AS 36.95.010(3), shall pay not less than the current prevailing rate of wages as issued by the Alaska Department of Labor before the end of the pay period. (AS 36.05.010).

16.9 PREVAILING WAGE RATES

- A. Wage rates for Laborers and Mechanics on Public Contracts, AS 36.05.070. The CONTRACTOR, or Subcontractors, shall pay all employees unconditionally and not less than once a week. Wages may not be less than those stated in Paragraph 16.8C, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors. The scale of wages to be paid shall be posted by the CONTRACTOR in a prominent, easily accessible place at the site of the WORK.
- B. Failure to Pay Agreed Wages, AS 36.05.080. If it is found that a laborer, mechanic, or field surveyor employed by the CONTRACTOR or Subcontractor has been, or is being, paid a rate or wages less than the established rate, the OWNER may, by written notice, terminate the CONTRACTOR or Subcontractors right to proceed with the work. The OWNER may prosecute the work to completion by contract or otherwise, and the CONTRACTOR and sureties will be held liable to the OWNER for excess costs for completing the WORK. (Section 2 ch 52 SLA 1959).
- C. Listing Contractor's Who Violate Contracts, AS 36.05.090. In addition, a list giving the names of persons who have disregarded the rights of their employees shall be distributed to all departments of State government and all political subdivisions. No person appearing on this list, and no firm, corporation, partnership or association in which the person has an

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interest, may work as a CONTRACTOR or Subcontractor on a public construction contract for the State, or a political subdivision of the state, until three years after the date of publication of the list. (Section 3 ch 52 SLA 1959; am Section 9 ch 142 SLA).

16.10 EMPLOYMENT REFERENCE. Workers employed in the execution of the contract by the CONTRACTOR or by any Subcontractor under this contract shall not be required or permitted to labor more than 8 hours a day or 40 hours per week in violation of the provisions of the Alaska Wage and Hour Act, Section 23.10.060.

16.11 COST REDUCTION INCENTIVE

- A. At any time within 45 days after the date of the Notice of Award, the CONTRACTOR may submit to the ENGINEER in writing, proposals for modifying the plans, specifications, or other requirements of this contract for the sole purpose of reducing the total cost of construction. The cost reduction proposal shall not impair in any manner the essential functions or characteristics of the project, including but not limited to, service life, economy of operation, ease of maintenance, desired appearance or design and safety standards.
- B. The cost reduction proposal shall contain the following information:
 - 1. Description of both the existing contract requirements for performing the WORK and the proposed changes.
 - 2. An itemization of the contract requirements that must be changed if the proposal is adopted.
 - 3. A detailed estimate of the time required and the cost of performing the WORK under both the existing contract and the proposed change.
 - 4. A statement of the date by which the CONTRACTOR must receive the decision from the OWNER on the cost reduction proposal.
 - 5. The contract items of WORK effected by the proposed changes including any quantity variations.
 - 6. A description and estimate of costs the OWNER may incur in implementing the proposed changes, such as test and evaluation and operating and support costs.
 - 7. A prediction of any effects the proposed change would have on future operations and maintenance costs to the OWNER.
- C. The provisions of this section shall not be construed to require the OWNER to consider any cost reduction proposal which may be submitted; nor will the OWNER be liable to the CONTRACTOR for failure to accept or act upon any cost reduction proposal submitted, or for delays to the work attributable to the consideration or implementation of any such proposal.
- D. If a cost reduction proposal is similar to a change in the plans or specifications for the project under consideration by the OWNER at the time the proposal is submitted, the OWNER will not accept such proposal and reserves the right to make such changes without compensation to the CONTRACTOR under the provisions of this section.
- E. The CONTRACTOR shall continue to perform the work in accordance with the requirements of the contract until an executed Change Order incorporating the cost reduction proposal has been issued. If any executed Change Order has not been issued by the date upon which the CONTRACTOR's cost reduction proposal specifies that a decision should be made by the OWNER, in writing, the cost reduction proposal shall be considered rejected.

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- F. The OWNER, shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings in Contract Time and construction costs resulting from the adoption of all or any part of such proposal. Should the CONTRACTOR disagree with OWNER's decision on the cost reduction proposal, there is no further consideration. The OWNER reserves the right to make final determination.
- G. If the CONTRACTOR's cost reduction proposal is accepted in whole or in part, such acceptance will be made by a contract Change Order, which specifically states that the change is executed pursuant to this cost reduction proposal section. Such Change Order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted to be put into effect and shall include any conditions upon which the OWNER's approval is based, if such approval is conditional. The Change Order shall also describe the estimated net savings in the cost of performing the work attributable to the cost reduction proposal, and shall further provide that the contract cost be adjusted by crediting the OWNER with the estimated net savings amount.
- H. Acceptance of the cost reduction proposal and performance of the work does not extend the time of completion of the contract, unless specifically provided in the Change Order authorizing the use of the submitted proposal. Should the adoption of the cost reduction proposal result in a Contract Time savings, the total Contract Time shall be reduced by an amount equal to the time savings realized.
- I. The amount specified to the CONTRACTOR in the Change Order accepted in the cost reduction proposal shall constitute full compensation for the performance of WORK. No claims for additional costs as a result of the changes specified in the cost reduction proposal shall be allowed.
- J. The OWNER reserves the right to adopt and utilize any approved cost reduction proposal for general use on any contract administered when it is determined suitable for such application. Cost reduction proposals identical, similar, or previously submitted will not be accepted for consideration if acceptance and compensation has previously been approved. The OWNER reserves the right to use all or part of any cost reduction proposal without obligation or compensation of any kind to the CONTRACTOR.
- K. The CONTRACTOR shall bear the costs, if any, to revise all bonds and insurance requirements for the project, to include the cost reduction WORK.

END OF SECTION

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

GENERAL. These Supplementary General Conditions make additions, deletions, or revisions to the General Conditions as indicated herein. All provisions which are not so added, deleted, or revised remain in full force and effect. Terms used in these Supplementary General Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SGC 1 DEFINITIONS. *Remove* the definition for Contract Documents and *replace* with the following:

Contract Documents – The Table of Contents, Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Subcontractor Report, Bid Bond, and all required certificates and affidavits), Agreement, Performance Bond, Payment Bond, General Conditions, Supplementary General Conditions, Alaska Labor Standards, Reporting, and Prevailing Wage Rate Determination, Special Provisions, Standard Specifications, Technical Specifications, Drawings, Permits, and all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents.

SGC 2.2 COPIES OF DOCUMENTS. *Add* the following:

The OWNER shall furnish to the CONTRACTOR up to ten (10) copies of the Contract Documents which will include bound reduced Drawings and full size drawings. The CBJ Contracts Office shall contact the CONTRACTOR after issuance of Notice of Intent to Award to determine how many copies are needed. Additional quantities of the Contract Documents will be furnished at reproduction cost.

SGC 3.2 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS. *Remove* No. 12. Technical Specifications and No. 13. Drawings, and *add* the following:

12. Special Provisions Section
13. Standard Specifications for Civil Engineering Projects and Subdivision Improvements
December 2003 Edition with current Errata Sheets.
14. Drawings.

SGC 4.2 PHYSICAL CONDITIONS - SUBSURFACE AND EXISTING STRUCTURES. *Add* the following:

- C. In the preparation of the Contract Documents, the Engineer of Record has relied upon field measurements and visual inspection of the existing structures and surface conditions.

SGC - 4.6 USE OF THE CBJ/STATE LEMON CREEK GRAVEL PIT. *Add* the following.

The CBJ/State Lemon Creek Gravel Pit is not available for this Project.

SGC 5.1 PERFORMANCE, PAYMENT, AND OTHER BONDS. The Contractor shall furnish Performance and Payment Bonds in the amount of 100% of the Bid.

SGC 5.2 INSURANCE AMOUNTS. The limits of liability for the insurance required by Paragraph 5.2 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations. All certificates of insurance supplied to the OWNER shall state that the OWNER is named as “**Additional Insured for any and all work performed for the City & Borough of Juneau.**” The Additional Insured requirement does not apply to Workers Compensation insurance. NOTE: This requirement has changed. The OWNER no longer requires certificates of insurance referencing project names and contract numbers.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

Delete paragraph C and *Replace* with the following paragraph C:

C. The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Failure of CBJ to demand such certificate or other evidence of full compliance with these insurance requirements or failure of CBJ to identify a deficiency from evidence that is provided shall not be construed as a waiver of the obligation of the Contractor to maintain the insurance required by this contract. The coverage afforded will not be cancelled, reduced in coverage, or renewal refused until at least 30 days' prior written notice has been given to the OWNER by the CONTRACTOR. . All such insurance required herein (except for Workers' Compensation and Employer's Liability) shall name the OWNER, its Consultants and subconsultants and their officers, directors, agents, and employees as "additional insureds" under the policies. The CONTRACTOR shall purchase and maintain the following insurance:

1. Workers' Compensation and Employer's Liability. This insurance shall protect the CONTRACTOR against all claims under applicable state workers' compensation laws. The CONTRACTOR shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Workers' Compensation law. The CONTRACTOR shall require each Subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the CONTRACTOR's Workers' Compensation Insurance. In case any class of employees is not protected, under the Workers' Compensation Statute, the CONTRACTOR shall provide and shall cause each subcontractor to provide adequate employer's liability insurance for the protection of such of its employees as are not otherwise protected.

- A. Workers' Compensation: (under Paragraph 5.2C.1 of the General Conditions) as in accordance with AS 23.30.045: (Additional Insured requirements not necessary for Workers' Compensation coverage.)

1. State: Statutory
2. Applicable Federal (e.g., Longshore): Statutory

Note: If the WORK called for in the Contract Documents involves work in or on any navigable waters, the CONTRACTOR shall provide Workers' Compensation coverage which shall include coverage under the Longshore and Harbor Workers' Compensation Act, the Jones Act, and any other coverage required under Federal or State laws pertaining to workers in or on navigable waters.

3. Employers Liability

Bodily Injury by Accident:	\$100,000.00 Each Accident
Bodily Injury by Disease:	\$100,000.00 Each Employee
Bodily Injury by Disease:	\$500,000.00 Policy Limit

 - a. CONTRACTOR agrees to waive all rights of subrogation against the OWNER for WORK performed under contract.
 - b. If CONTRACTOR directly utilizes labor outside of the State of Alaska in the prosecution of the WORK, "Other States" endorsement shall be required as a condition of the contract.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

B. Commercial General Liability: (under Paragraph 5.2C.2 of the General Conditions):

1.	General Policy	\$1,000,000.00	Each Occurrence
		\$2,000,000.00	Annual Aggregate
2.	Products/Completed Operations	\$1,000,000.00	Each Occurrence
		\$2,000,000.00	Annual Aggregate
3.	Personal Injury	\$1,000,000.00	Each Occurrence

C. Commercial Automobile Liability: (under Paragraph 5.2C.3 of the General Conditions) including Owned, Hired, and Non-Owned Vehicles:

Combined Single Limit, Bodily Injury and Property Damage \$1,000,000.00

The CONTRACTOR shall require each Subcontractor similarly to provide Commercial Automobile Liability Insurance for all of the latter's employees to be engaged in such WORK unless such employees are covered by the protection afforded by the CONTRACTOR's Commercial Automobile Liability Insurance.

D. BUILDERS RISK is not required for this project.

E. Marine Protection and Indemnity \$2,000,000 per Accident or Occurrence including coverage for all crew members. Divers must have appropriate certifications. This coverage is required for any in-water work performed on a marine vessel. This coverage may be provided by the Prime Contractor or the Subcontractor, if the Subcontractor is contracted to do the in-water work on a marine vessel.

F. Policies shall also specify insurance provided by CONTRACTOR will be considered primary and not contributory to any other insurance available to the OWNER.

G. Should any of the policies described above be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

SGC 6.5 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS. *Add* the following:

The CONTRACTOR shall perform not less than 40% of the WORK with its own forces (i.e., without subcontracting). The 40% requirement shall be understood to mean that the CONTRACTOR shall perform, with its own organization, WORK amounting to at least 40% of the original contract amount. The 40% requirement will be calculated based upon the total of the subcontract amounts submitted for Contract Award, and any other information requested by the OWNER from the apparent low Bidder.

SGC 6.5 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS, *Add* the following paragraph:

C. CONTRACTOR must pay Subcontractors and/or Suppliers within 30 days of receiving payment from the OWNER, if that payment was made for Work performed by the Subcontractor and/or materials received. Failure to pay Subcontractors within 30 days of receiving payment from which Subcontractor and/or Supplier is to be paid may result in the OWNER initiating debarment proceedings as prescribed in the City and Borough of Juneau Purchasing Code. *The 30 day City and Borough of Juneau requirement does not supersede AS 36.90.210.*

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

SGC 6.6 PERMITS, *Add* the following paragraph:

- D. Contractor is responsible for obtaining a Hot Works permit from the CBJ Permit Center, if performing work which requires such a permit. Work requiring a Hot Works Permit includes but is not limited to the following: cutting, welding, Thermit welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of torch-applied roof systems or any other similar activity.

SGC 14.3 APPLICATION FOR PROGRESS PAYMENT. Paragraph D.

- D. The Value of Materials Stored at the site shall be an amount equal to 85%.

SGC 14.9 FINAL PAYMENT AND ACCEPTANCE. *Add* the following paragraph:

- C. Prior to the final payment the CONTRACTOR shall contact the Alaska Department of Labor and Workforce Development (ADOL) and provide the OWNER with clearance from the ADOL for the CONTRACTOR and all Subcontractors that have worked on the Project. This clearance shall indicate that all Employment Security Taxes have been paid. A sample form for this purpose is at the end of this section. The CONTRACTOR shall also submit a "NOTICE OF COMPLETION OF PUBLIC WORKS" signed by ADOL.

SGC 16.8 CERTIFIED PAYROLLS. *Change* paragraph A. to read:

- A. All CONTRACTORS or Subcontractors who perform work on a public construction contract for the OWNER shall file a certified payroll with Alaska Department of Labor. See Section 00830 - Alaska Labor Standards, Reporting, and Prevailing Wage Rate Determination.

Add the following SGC 16.12.

SGC 16.12 EQUAL EMPLOYMENT OPPORTUNITY (EEO)

The CONTRACTOR may not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, disability, sex, marital status, changes in marital status, pregnancy or parenthood. The CONTRACTOR shall post a notice setting out the provisions of this paragraph in a conspicuous place available to employees and applicants for employment.

The CONTRACTOR and each Subcontractor shall state in all solicitations and advertisements for employees to work on this Project, that it is an Equal Opportunity Employer and that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, disability, sex, marital status, changes in marital status, pregnancy or parenthood.

The CONTRACTOR shall include the provisions of this EEO article in every contract relating to this Project and shall require the inclusion of these provisions in every agreement entered into for this Project, so that those provisions will be binding upon the CONTRACTOR and each Subcontractor.

Add the following SGC 17:

SGC 17 GENERAL INFORMATION. This Project is currently funded by the City and Borough of Juneau, Alaska Sales Tax and Marine Passenger Fees.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

Employment Security Tax Clearance

Date: _____

To: Alaska Department of Labor
Juneau Field Tax Office
PH 907-465-2787
FAX 907-465-2374

From: _____

**Subject: Downtown Waterfront Corrosion Control Repairs
Contract No. E16-164**

Timeframe of Contract _____

Please advise whether or not clearance is granted for the following CONTRACTOR or Subcontractor:
(List only one CONTRACTOR or Subcontractor per page.)

_____	_____
Name	Address

Per AS 23.20.265 of the Alaska Employment Security Act, this request is for tax liability clearance and release to make final payment for WORK performed under the subject contract. Please send your response to:

Greg Smith, Contract Administrator
Engineering Department
155 S. Seward Street
Juneau, Alaska 99801
FAX 907-586-4530

- () Tax Clearance is granted.
() Tax Clearance is NOT granted.

Remarks: _____

Signature

Date

Title

END OF SECTION

**SECTION 00830 - ALASKA LABOR STANDARDS, REPORTING, AND
PREVAILING WAGE RATE DETERMINATION**

State of Alaska, Department of Labor, Laborers' and Mechanics' Minimum Rates of Pay, AS 36.05.010 and AS 36.05.050, Wage and Hour Administration Pamphlet No. 600, the latest edition published by the State of Alaska, Department of Labor inclusive, are made a part of this contract by reference.

The CONTRACTOR is responsible for contacting the Alaska Department of Labor to determine compliance with current regulations.

Correspondence regarding Title 36 requirements may be submitted electronically or paper copies can be submitted by mail. To submit Title 36 documents electronically, go to <https://myalaska.state.ak.us/home/app>. If filing electronically, submit certified payrolls to ADOL at the website above and email a copy of all certified payrolls to Greg Smith at the email address below. If Contractor elects to submit paper copies, they should be submitted to the physical addresses below.

Within 10 Days of "Notice of Award/Notice to Proceed" make a list of **all** Subcontractors. Include their name, address, phone, estimated subcontract amount, and estimated start and finish dates. Send this list to the Wage and Hour Section (contact information below).

Certified Payrolls must be submitted every two weeks. Before the second Friday, each CONTRACTOR and Subcontractor must file Certified Payrolls with Statements of Compliance for the previous two weeks. Indicate **"Start"** on your first payroll, and **"Final"** on your last payroll for this Project.

As part of the **final payment request package**, CONTRACTOR must submit a "NOTICE OF COMPLETION OF PUBLIC WORKS" form signed by ADOL personnel.

Contact Information:

Wage and Hour Section
State of Alaska
Department of Labor and Workforce Development
Labor Standards and Safety Division and
Wage and Hour Administration
P.O. Box 11149
Juneau, AK 99811-1149
907-465-4842
<http://labor.state.ak.us/lss/home.htm>

Greg Smith, Contract Administrator
City and Borough of Juneau
155 S. Seward Street
Juneau, AK 99801
(907) 586-0873
greg.smith@juneau.org

END OF SECTION

SECTION 01010 - SUMMARY OF WORK

PART 1 – GENERAL

1.1 GENERAL

- A. The WORK to be performed under this contract shall consist of furnishing all plant, tools, equipment, materials, supplies, manufactured articles, labor, transportation and services, including fuel, power, water, and essential communications, and performing all WORK, or other operations required for the fulfillment of the contract in strict accordance with the Contract Documents. The WORK shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the WORK in good faith shall be provided by the CONTRACTOR as though originally so indicated, at no increase in cost to the OWNER.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. WORK consists of all activities necessary to provide the Downtown Waterfront Corrosion Control Repairs as shown in the contract documents. The work includes in-place surface preparation and jacketing of H-piles and galvanic protection systems.

1.3 SITE OF THE WORK

- A. The site of the WORK runs from the Marine Park Seawall to the Downtown Parking Garage and Library in downtown Juneau, Alaska.

1.4 BEGINNING AND COMPLETION OF THE WORK

- A. Time is the essence of the contract. In accordance with the provisions of Article 2 of SECTION 00500 - AGREEMENT, the CONTRACTOR shall begin the WORK on the date specified in the written Notice to Proceed from the OWNER, and shall complete all the WORK in accordance with the following schedule:

The work shall be completed according to the following schedule:

<u>Work Description</u>	<u>Completion Date</u>
Substantial Completion	December 14, 2016
All WORK under the Contract Documents	December 31, 2016

1.5 CONTRACT METHOD

- A. The WORK hereunder will be constructed under a unit-price Contract.

1.6 WORK BY OTHERS

- A. The CONTRACTOR's attention is directed to the fact that WORK may be conducted at the site by other contractors during the performance of the WORK under this Contract. The CONTRACTOR shall conduct its operations so as to cause a minimum of interference with the WORK of such other Contractors, and shall cooperate fully with such Contractors to provide continued safe access to their respective portions of the site, as required to perform WORK under their respective contracts.
- B. Interference With WORK On Utilities: The CONTRACTOR shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the

SECTION 01010 - SUMMARY OF WORK

progress of the WORK, and shall schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.7 CONTRACTOR USE OF PROJECT SITE

- A. The CONTRACTOR's use of the Project site shall be limited to its construction operations, including on-site storage of materials. On site staging areas shall be limited to one parking lot immediately shoreward of the Visitor Center and covered canopy as shown on the Plans.

1.8 OWNER USE OF THE PROJECT SITE

- A. The OWNER may utilize all or part of the existing site during the entire period of construction for the conduct of the OWNER's normal operations. The CONTRACTOR shall cooperate and coordinate with the ENGINEER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, the OWNER shall be allowed access to the Project site during the period of construction.

1.9 PROJECT MEETINGS

A. Pre-Construction Conference

1. Prior to the commencement of WORK at the site, a Pre-Construction Conference will be held at a mutually agreed time and place which shall be attended by the CONTRACTOR's Project manager, its superintendent, and its Subcontractors as the CONTRACTOR deems appropriate. Other attendants will be:
 - a. ENGINEER and the Inspector.
 - b. Representatives of OWNER.
 - c. Governmental representatives as appropriate.
 - d. Others as requested by CONTRACTOR, OWNER, or ENGINEER.
2. Unless previously submitted to the ENGINEER, the CONTRACTOR shall bring one copy each of the following:
 - a. Plan of Operation.
 - b. Project Overview Bar Chart Schedule.
 - c. Procurement schedule of major equipment and materials and items requiring long lead time.
 - d. Shop Drawing/Sample/Substitute or "Or Equal" submittal schedule.
 - e. Name and telephone number of CONTRACTOR's Project Supervisor.
3. The purpose of the Pre-Construction Conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished to the CONTRACTOR prior to the meeting date.

The CONTRACTOR should be prepared to discuss all of the items listed below:

- a. Status of CONTRACTOR's insurance and bonds.
- b. CONTRACTOR's tentative schedules.
- c. Transmittal, review, and distribution of CONTRACTOR's Submittals.
- d. Processing applications for payment.
- e. Maintaining record documents.
- f. Critical Work sequencing.
- g. Field decisions and Change Orders.

SECTION 01010 - SUMMARY OF WORK

- h. Use of Project site, office and storage areas, security, housekeeping, and OWNER's needs.
 - i. Major equipment deliveries and priorities.
 - j. CONTRACTOR's assignments for safety and first aid.
- 4. The OWNER will preside at the Pre-Construction Conference and will arrange for keeping and distributing the minutes to all persons in attendance.
- 5. The CONTRACTOR and its Subcontractors should plan on the conference taking no less than 2 full working days. The first day will cover the items listed in paragraph 3, and the following day(s) will be spent on reviewing the Plans and Specifications, in extensive detail, with the ENGINEER and the OWNER.

B. Progress Meetings

- 1. The CONTRACTOR shall schedule and hold regular on-site progress meetings at least weekly and at other times as requested by the ENGINEER, or as required by progress of the WORK. The CONTRACTOR, ENGINEER, and all Subcontractors active on the site must attend each meeting. CONTRACTOR may at its discretion request attendance by representatives of its Suppliers, Manufacturers, and other Subcontractors.
- 2. The ENGINEER shall preside at the meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings will be to review the progress of the WORK, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, the CONTRACTOR is required to present any issues which may impact its WORK, with a view to resolve these issues expeditiously.

1.10 DEFINITIONS APPLICABLE TO TECHNICAL SPECIFICATIONS. The following words have the meaning defined in the Technical Portions of the WORK:

Furnish - means to supply and deliver to the site, to unload and unpack ready for assembly, installation, testing, and start-up.

Indicated - is a word used to direct the CONTRACTOR to information contained on the drawings or in the Specifications. Terms such as "shown," "noted," "scheduled," and "specified" also may be used to assist in locating information but no limitation of location is implied or intended.

Install - defines operations at the site including assembly, erection, placing, anchoring, applying, shaping to dimension, finishing, curing, protecting, and cleaning, ready for the OWNER's use.

Installer - a person or firm engaged by the CONTRACTOR or its Subcontract or any Subcontractor for the performance of installation, erection, or application work at the site. Installers must be expert in the operations they are engaged to perform.

Provide - is defined as furnish and install, ready for the intended use.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

PAY ITEMS KEY: D&H =Docks & Harbors

ENGR. = CBJ Engineering

CTB= Common to Both

1.1 SCOPE

- A. Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of WORK being described, as necessary to complete the various items of the WORK all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA).
- B. No separate payment will be made for any pay item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of WORK.
- C. In addition to other incidental items of WORK listed elsewhere in the contract, the following items shall also be considered as incidental to other items of WORK under this contract:
 - 1. Removal and replacement of survey monuments and markers disturbed during construction, whether shown on the Plans or not.
 - 2. Re-vegetating and paving areas disturbed during construction.
 - 3. Trench excavation and bedding as required for anode, cable, vent pipe, and associated manhole installations.
 - 4. Erosion and pollution control including preparation of a storm water pollution prevention plan and notice of intent in accordance with local, state and federal standards.
 - 5. Disposal of unsuitable excavation.
 - 6. Cutting penetrations in the sheet pile wall.
 - 7. Temporary shoring of trenches or bracing of existing facilities as required for constructing any/all improvements.
 - 8. Maintenance of all services through the Project area, including water, storm, garbage pickup, mail delivery, other deliveries and emergency vehicles.
 - 9. All traffic control, including flaggers and preparation of satisfactory Traffic Control Plans.
 - 10. Minor grading of fill materials as required to match existing grades and to maintain positive surface drainage.
 - 11. Minor changes in grades to fit field conditions.
 - 12. Bench and table excavation, removal, and reinstallation.
 - 13. Disconnecting, protecting, and reinstalling existing cathodic protection cables.
 - 14. Miscellaneous connecting and attachment hardware as required for installing new equipment.
 - 15. Excavating, bedding, and backfilling for all electrical equipment including junction boxes, pull boxes, and conduit and fittings.
 - 16. Protecting, temporarily or permanently relocating, and if necessary reinstalling existing cathodic protection cables, junction boxes, pull boxes, and conduit and fittings.
 - 17. Relocation of existing signs and other misc. items as shown on the Plans

SECTION 01025 - MEASUREMENT AND PAYMENT

1.2 MOBILIZATION (CTB-Pay Item No. 1505.1) PRICE BASED ON LUMP SUM

- A. Measurement for payment for Mobilization shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- B. Payment for Mobilization shall be made at the amount shown on the Bid Schedule under CTB-Pay Item No. 1505.1, which payment will constitute full compensation for all WORK described in Section 01505 - Mobilization, as shown on the Plans and as directed by the ENGINEER.
- C. Partial payments will be made as the WORK progresses as follows:
 - 1. When 5% of the total original contract amount is earned from other pay items, 50% of the amount bid for Mobilization, or 5% of the original contract amount, whichever is lesser, will be paid.
 - 2. When 10% of the total original contract amount is earned from other pay items, 100% of the amount bid for Mobilization, or 10% of the original Contract amount, whichever is lesser, will be paid.
 - 3. Upon completion of all WORK on the Project, payment of any amount bid for Mobilization in excess of 10% of the total original contract amount will be paid.

2.1 MARINE PARK BUS PARKOVER PILE WRAP AND JACKETING (D&H-Pay Item No. 2455.1) PRICE BASED ON LUMP SUM

- A. Measurement for payment for Marine Park Bus Parkover Pile Wrap and Jacketing shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- B. Payment for Marine Park Bus Parkover Pile Wrap and Jacketing shall be made at the amount shown in the Bid Schedule under D&H-Pay Item No. 2455.1, which payment will constitute full compensation for all WORK described in Section 02455 – Pile Wrap and Jacketing, as shown on the Plans and as directed by the ENGINEER.

2.2 DOWNTOWN PARKING GARAGE AND LIBRARY PILE WRAP AND JACKETING (ENGR. -Pay Item No. 2455.2) PRICE BASED ON LUMP SUM

- A. Measurement for payment for Downtown Parking Garage and Library Pile Wrap and Jacketing shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- B. Payment for Downtown Parking Garage and Library Wrap and Jacketing shall be made at the amount shown in the Bid Schedule under ENGR.-Pay Item No. 2455.2, which payment will constitute full compensation for all WORK described in Section 02455 – Pile Wrap and Jacketing, as shown on the Plans and as directed by the ENGINEER.

SECTION 01025 - MEASUREMENT AND PAYMENT

2.5 SHEET PILE GALVANIC ANODE CATHODIC PROTECTION (D&H- Pay Item No. 13112.1) PRICE BASED ON ALTERNATE BID LUMP SUM

- A. Measurement for payment for Sheet Pile Galvanic Anode Cathodic Protection shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- B. Payment for Sheet Pile Galvanic Anode Cathodic Protection shall be made at the amount shown in the Bid Schedule under D&H-Pay Item No. 13112.1, which payment shall constitute full compensation for all WORK described in Section 13112 – Sheet Pile Galvanic Anode Cathodic Protection, as shown on the plans and as directed by the ENGINEER.

2.7 REMOVAL OF UNFORESEEN STRUCTURES AND OBSTRUCTIONS (CTB-Pay Item No. XX) TO BE ASSIGNED DURING THE WORK. PRICE ON A NEGOTIATED BASIS.

- A. Measurement for payment for Removal of Unforeseen Structures and Obstructions will be made on a negotiated basis for each unforeseen obstruction encountered.
- B. Payment for this item will be negotiated on a case-by-case basis for each item deemed to be in conflict with the progress of the project. No work for Removal of Unforeseen Structures and Obstructions will be made until a cost for the removal has been agreed to by both the OWNER and the ENGINEER.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01045 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DEFINITION

- A. "Cutting and Patching" is defined to include the cutting and patching of nominally completed and previously existing concrete, steel, wood and miscellaneous metal structures; piping and pavement, in order to accommodate the coordination of WORK, or the installation of other facilities or structures or to uncover other facilities and structures for access or inspection, or to obtain samples for testing, or for similar purposes.

1.2 REQUIREMENTS OF STRUCTURAL WORK

- A. Structural WORK shall not be cut and patched in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- B. Prior to cutting and patching the following categories of WORK, the CONTRACTOR shall obtain the ENGINEER's approval to proceed with:
 - 1. Structural steel
 - 2. Miscellaneous structural metals, including equipment supports, stair systems and similar categories of work
 - 3. Structural concrete
 - 4. Foundation construction including piles
 - 5. Timber and primary wood framing and bull rails
 - 6. Bearing and retaining walls
 - 7. Structural decking
 - 8. Pressurized piping, vessels and equipment
 - 9. Asphalt pavement, concrete or asphalt curb/gutter, and concrete sidewalk
 - 10. Concrete or timber floats

1.3 OPERATIONAL AND SAFETY LIMITATIONS

- A. The CONTRACTOR shall not cut and patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
- B. Prior to cutting and patching the following categories of WORK, the CONTRACTOR shall obtain the ENGINEER's approval to proceed with:
 - 1. Sheeting, shoring and cross bracing
 - 2. Operating systems and equipment
 - 3. Water, moisture, vapor, air, smoke barriers, membranes and flashing
 - 4. Noise and vibration control elements and systems
 - 5. Control, communication, conveying and electrical wiring systems

1.4 VISUAL REQUIREMENTS

- A. The CONTRACTOR shall not cut and patch WORK which is exposed on the exterior or exposed in occupied spaces, in a manner resulting in a reduction of visual qualities or

SECTION 01045 - CUTTING AND PATCHING

resulting in substantial evidence of the cut and patch work, both as judged solely by the ENGINEER. The CONTRACTOR shall remove and replace WORK judged by the ENGINEER to have been cut and patched in a visually unsatisfactory manner.

1.5 APPROVALS

- A. Where prior approval of cutting and patching is required, the CONTRACTOR shall submit the request and obtain approval prior to performing the WORK. The request should include a description of why cutting and patching cannot reasonably be avoided; how it will be performed; how structural elements (if any) will be reinforced; products to be used; firms and tradespeople who will perform the WORK; approximate dates of the WORK; and anticipated results in terms of structural, operational, and visual variations from the original WORK.

PART 2 - PRODUCTS

2.1 MATERIALS USED IN CUTTING AND PATCHING

- A. Except as otherwise indicated, the CONTRACTOR shall provide materials for cutting and patching which will result in equal-or-better WORK than the WORK being cut and patched, in terms of performance characteristics and including visual effects where applicable. The CONTRACTOR shall use material identical with the original materials where feasible.
- B. Materials shall comply with the requirements of the Technical Specifications wherever applicable.

PART 3 - EXECUTION

3.1 PREPARATION

- A. The CONTRACTOR shall provide adequate temporary support for cutting WORK to prevent failure.
- B. The CONTRACTOR shall provide adequate protection of other WORK during cutting and patching.

3.2 INSTALLATION

- A. The CONTRACTOR shall employ skilled tradespeople to perform cutting and patching. Except as otherwise indicated, the CONTRACTOR shall proceed with cutting and patching at the earliest feasible time and perform the WORK promptly.
- B. The CONTRACTOR shall use methods least likely to damage WORK to be retained and WORK adjoining.
 - 1. In general, where physical cutting action is required, the CONTRACTOR shall cut WORK with sawing and grinding tools, not with hammering and chopping tools. Openings through concrete work shall be core-drilled and all final edges shall be ground smooth to prevent wear.

SECTION 01045 - CUTTING AND PATCHING

2. Comply with the requirements of Technical Specifications wherever applicable.
 3. Comply with the requirements of applicable sections of Division 2 where cutting and patching requires excavation and backfill.
- C. The CONTRACTOR shall patch with seams which are as invisible as possible and comply with specified tolerances for the WORK.
- D. The CONTRACTOR shall restore exposed seams of patched area; and, where necessary, extend finish restoration onto retained WORK adjoining, in a manner which will eliminate evidence of patching.

END OF SECTION

SECTION 01070 - ACRONYMS OF INSTITUTIONS

PART 1 - GENERAL

1.1 GENERAL

- A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of these Specifications, the following acronyms which may appear in these Specifications shall have the meanings indicated herein.

1.2 ACRONYMS

AAMA	Architectural Aluminum Manufacturer's Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ACI	American Concrete Institute
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGA	American Gas Association
AGMA	American Gear Manufacturer's Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
ATM	Alaska Test Methods
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BHMA	Builders Hardware Manufacturer's Association

SECTION 01070 - ACRONYMS OF INSTITUTIONS

CBM	Certified Ballast Manufacturers
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CLFMI	Chain Link Fence Manufacturer's Institute
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
DCDMA	Diamond Core Drill Manufacturer's Association
EIA	Electronic Industries Association
ETL	Electrical Test Laboratories
FPL	Forest Products Laboratory
HI	Hydronics Institute
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IME	Institute of Makers of Explosives
IOS	International Organization for Standardization
IP	Institute of Petroleum (London)
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ITE	Institute of Traffic Engineers
MBMA	Metal Building Manufacturer's Association
MPTA	Mechanical Power Transmission Association
MTI	Marine Testing Institute
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NCCLS	National Committee for Clinical Laboratory Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NLGI	National Lubricating Grease Institute
NMA	National Microfilm Association
NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
RIS	Redwood Inspection Service
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Makers Association
SMA	Screen Manufacturers Association
SMACCNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SPR	Simplified Practice Recommendation
SSA	Swedish Standards Association
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Steel Structures Painting Council
SSPWC	Standard Specifications for Public Works Construction

SECTION 01070 - ACRONYMS OF INSTITUTIONS

TAPPI	Technical Association of the Pulp and Paper Industry
TFI	The Fertilizer Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WIC	Woodwork Institute of California
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01090 - REFERENCE STANDARDS

PART 1 - GENERAL

1.1 GENERAL

- A. Titles of Sections and Paragraphs: Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.
- B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the WORK is advertised for Bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable Laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.
- C. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the CONTRACTOR.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of the Specifications, all WORK specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.
- B. References herein to "Building Code" or "Uniform Building Code" shall mean Uniform Building Code of the International Conference of Building Officials (ICBO).
- C. Similarly, references to "Mechanical Code" or "Uniform Mechanical Code," "Plumbing Code" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code and used by the local agency as of the date that the WORK is advertised for Bids, as adopted by the agency having jurisdiction, shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful changes thereto.
- D. In case of conflict between codes, reference standards, Drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought

SECTION 01090 - REFERENCE STANDARDS

to the attention of the ENGINEER for clarification and directions prior to ordering or providing any materials or furnishing labor. The CONTRACTOR shall Bid for the most stringent requirements.

- E. The CONTRACTOR shall construct the WORK specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein.
- F. Applicable Standard Specifications: References in Contract Sections 02801 -Asphalt Concrete Pavement to Standard Specifications shall mean the Alaska Department of Transportation and Public Facilities "Standard Specifications for Highway Construction - 1998" and any supplements or amendments thereto.
- G. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- H. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01230 - ALTERNATES

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 alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

PART 2 - PRODUCTS (Not Used)

SECTION 01230 - ALTERNATES

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Schedule: Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

1. Scope of Work: Additive Alternate No. 1.

SHEET PILE GALVANIC ANODE CATHODIC PROTECTION

- a. Provide all labor, materials, tools and equipment necessary to install anode sleds and related hardware, as shown in the Drawings and as described in Section 13112 – Sheet Pile Galvanic Anode Cathodic Protection.
- b. The Work also includes diving and containment of debris and dust generated during the installation.

END OF SECTION 01230

SECTION 01301 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 THE REQUIREMENT

- A. This Section defines the process whereby the Schedule of Values (Lump Sum Pay Unit price breakdown) shall be developed. Monthly progress payment amounts shall be determined from the monthly progress updates of the CPM Schedule activities.

1.3 SCHEDULE OF VALUES

- A. The CONTRACTOR shall submit a preliminary Schedule of Values for the major components of the WORK at the Preconstruction Conference as specified and referenced in Section 01010 - Summary of WORK. The listing shall include, at a minimum, the proposed value for all major WORK components as required by the contract documents.

1.4 CHANGES TO SCHEDULE OF VALUES

- A. Changes to the CPM Schedule which add activities not included in the original schedule but included in the original WORK (schedule omissions) shall have values assigned as approved by the ENGINEER AND OWNER. Other activity values shall be reduced to provide equal value adjustment increases for added activities as approved by the ENGINEER AND OWNER.
- B. In the event that the CONTRACTOR and ENGINEER AND OWNER agree to make adjustments to the original Schedule of Values because of inequities discovered in the original accepted detailed Schedule of Values, increases and equal decreases to values for activities may be made.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01310 - PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED.

- A. Procedures for preparation and submittal of construction progress schedules and periodic schedule updating.

1.2 FORMAT

- A. Prepare schedules as a horizontal bar chart with separate bar for each major portion of WORK or operations, identifying first work day of each week. Separately from the written two week preview of Work presented at Weekly Progress Meetings, the CONTRACTOR shall update the project schedule in horizontal bar chart format as often as directed by the OWNER or the ENGINEER AND OWNER.
- B. Pay Requests may be held by the Owner until an updated schedule is received, reviewed and Approved.
- C. Sequence of listings shall reflect the chronological order of the start of each item of WORK and encompass those items as noted in the table of contents of this Project manual.
- D. Scale and spacing shall be such as to provide for notations and revisions.
- E. Minimum sheet size of 11 x 17 inches, unless approved otherwise by the ENGINEER AND OWNER.

1.3 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by Specification section number.
- C. Identify WORK of separate stages and other logically grouped activities.
- D. Provide sub-schedules to define critical portions of entire schedule.
- E. Show accumulated percentage of completion of each item, and total percentage of WORK completed, as of the mid and final days of each month.
- F. Provide separate schedules of submittal dates for Shop Drawings, product data, and samples, including products specified under alternate bids, and dates reviewed submittals will be required from the Project ENGINEER AND OWNER. Show decision dates for selection of finishes and options, where appropriate.
- G. Show delivery dates for materials and products.
- H. Coordinate and display cost allocation requirements of Section 01301 - Schedule of Values, prior to the CONTRACTOR's initial application for payment.

1.4 REVISIONS TO SCHEDULES

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.

SECTION 01310 - PROGRESS SCHEDULES

- B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken, or proposed, and its effect including the effect of changes on schedules of separate Subcontractors.
- D. When submitting a revised schedule, CONTRACTOR shall state specifically the reason for the revision and the adjustments made in the schedule or methods of operation to ensure the completion of all the WORK within the Contract time.

1.5 SUBMITTALS

- A. Prior to the Pre-Construction Meeting submit two sets of initial schedules in accordance with Section 01300 - CONTRACTOR Submittals. After review, resubmit required revised data within ten days, modified to accommodate revisions recommended by the Project ENGINEER AND OWNER.
- B. Submit progress schedules reflecting the progress to date and anticipated in the future with each Application for Payment. Upon substantial changes to the CONTRACTOR's progress schedule of WORK, or upon request of the Project ENGINEER AND OWNER, the CONTRACTOR shall submit the revised progress schedule(s) in the form required.
- C. Submit under transmittal letter specified in Section 01300 - CONTRACTOR Submittals.

1.6 DISTRIBUTION

- A. Distribute copies of reviewed schedules to job site file, Subcontractors, suppliers, and other concerned entities.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01330 – CONTRACTOR SUBMITTALS

PART 1 - GENERAL

1.1 GENERAL

- A. Whenever Submittals are required hereunder, all such Submittals by the CONTRACTOR shall be submitted to the ENGINEER.
- B. Within 14 days after the date of commencement as stated in the Notice of Award/Notice to Proceed, the CONTRACTOR shall submit the following items to the ENGINEER for review:
 - 1. A preliminary schedule of Shop Drawing, Sample and proposed Substitutes or “Or-Equal” Submittals.
 - 2. A list of all PERMITS and licenses the CONTRACTOR shall obtain indicating the agency required to grant the permit and the expected date of submittal for the permit and the required date for receipt of the permit.
 - 3. A complete progress schedule for all phases of the project.
 - 4. All required Material Safety Data Sheets.
 - 5. A staging and traffic maintenance plan, as required.
 - 6. A plan for temporary erosion control and pollution control, as required.
 - 7. A letter designating the CONTRACTOR’s Superintendent, defining that person’s responsibility and authority, and providing a specimen of his signature.
 - 8. A letter designating the CONTRACTOR’s safety representative and the EEO Officer and the person’s responsibility and authority.

1.2 SHOP DRAWING SUBMITTAL

- A. Wherever called for in the Contract Documents, or where required by the ENGINEER, the CONTRACTOR shall furnish to the ENGINEER, for review, 8 copies of each Shop Drawing Submittal. The term “ Shop Drawings” as used herein shall be understood to include detail design calculations, Shop Drawings, fabrication and installation Drawings, erection Drawings, lists, graphs, operating instructions, catalog sheets, data sheets, and similar items.
- B. All Shop Drawing Submittals shall be accompanied by the ENGINEER’s standard submittal transmittal form. The form may be obtained in quantity from the ENGINEER. Any submittal not accompanied by such a form, or where all applicable items on the form are not completed, will be returned for resubmittal.
- C. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer’s “package” or are so functionally related that expediency indicates review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the ENGINEER.
- D. Except as otherwise provided herein, the ENGINEER will return prints of each submittal to the CONTRACTOR with its comments noted thereon, within 30 calendar days following their receipt by the ENGINEER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the second submission of a submittal item. The OWNER reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER review beyond the second submittal. The ENGINEER’s maximum review period for each submittal including all re-submittals will be 30 days per submission. In other words, for a submittal that requires two re-submittals before it is complete, the maximum review period for that submittal could be 90 days.

SECTION 01330 – CONTRACTOR SUBMITTALS

- E. If 3 copies of a submittal are returned to the CONTRACTOR marked “NO EXCEPTIONS TAKEN,” formal revision and resubmission of said submittal will not be required.
- F. If 3 copies of a submittal are returned to the CONTRACTOR marked “MAKE CORRECTIONS NOTED,” formal revision and resubmission of said submittal is not required.
- G. If one copy of the submittal is returned to the CONTRACTOR marked “AMEND-RESUBMIT,” the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the ENGINEER.
- H. If one copy of the submittal is returned to the CONTRACTOR marked “REJECTED-RESUBMIT,” the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the ENGINEER.
- I. Fabrication of an item may be commenced only after the ENGINEER has reviewed the pertinent submittal and returned copies to the CONTRACTOR marked either “NO EXCEPTIONS TAKEN” or “MAKE CORRECTIONS NOTED.” Corrections indicated on submittal shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the Contract requirements. Only a Change Order can alter the contract price, time, or requirements.
- J. All CONTRACTOR Shop Drawing Submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR, prior to submission to the ENGINEER. Each submittal shall be dated, signed, and certified by the CONTRACTOR, as being correct and in strict conformance with the Contract Documents. In the case of Shop Drawings, each sheet shall be so dated, signed, and certified. No consideration for review by the ENGINEER of any CONTRACTOR submittal will be made for any items which have not been so certified by the CONTRACTOR. All non-certified Submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.
- K. The ENGINEER’s review of CONTRACTOR Shop Drawing Submittals shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions. The CONTRACTOR shall assume all responsibility and risk for any misfits due to any errors in CONTRACTOR Submittals. The CONTRACTOR shall be responsible for the dimensions and the design of adequate connections and details.
- L. Electronic transmission may be acceptable for some submittals if agreed to by the ENGINEER.

1.3 SAMPLES SUBMITTALS

- A. Whenever in the Specifications samples are required, the CONTRACTOR shall submit not less than 3 samples of each item or material to the ENGINEER for acceptance at no additional cost to the OWNER.
- B. Samples, as required herein, shall be submitted for acceptance a minimum of 21 days prior to ordering such material for delivery to the job site, and shall be submitted in an orderly sequence so that dependent materials or equipment can be assembled and reviewed without causing delays in the WORK.
- C. All samples shall be individually and indelibly labeled or tagged, indicating thereon all specified physical characteristics and Supplier’s names for identification and submitted to the ENGINEER for acceptance. Upon receiving acceptance of the ENGINEER, one set of the

SECTION 01330 – CONTRACTOR SUBMITTALS

samples will be stamped and dated by the ENGINEER and returned to the CONTRACTOR, and one set of samples will be retained by the ENGINEER, and one set of samples shall remain at the job site until completion of the WORK.

- D. Unless clearly stated otherwise, it is assumed that all colors and textures of specified items presented in sample submittal are from the manufacturer's standard colors and standard materials, products, or equipment lines. If the samples represent non-standard colors, materials, products or equipment lines, and their selection will require an increase in contract time or price, the CONTRACTOR will clearly indicate this on the transmittal page of the submittal.

1.4 TECHNICAL MANUAL SUBMITTAL

- A. Using the outline provided in the Equipment Maintenance Summary Sheet (copy of which may be obtained from the ENGINEER), the CONTRACTOR shall include in the technical manuals for each item of mechanical, electrical, and instrumentation equipment, the following:
 - 1. Complete operating instructions, including location of controls, special tools or other equipment required, related instrumentation, and other equipment needed for operation.
 - 2. Lubrication schedules, including the lubricant SAE grade and type, temperature range of lubricants, and including frequency of required lubrication.
 - 3. Preventive maintenance procedures and schedules.
 - 4. Parts lists, by generic title and identification number, complete, with exploded views of each assembly.
 - 5. Disassembly and reassembly instructions.
 - 6. Name and location of nearest Supplier and spare parts warehouse.
 - 7. Recommended troubleshooting and startup procedures.
 - 8. Reproducible prints of the record Drawings, including diagrams and schematics, as required under the electrical and instrumentation portions of these Specifications.
 - 9. Tabulation of proper settings for all pressure relief valves, (low/high) pressure switches and other related equipment protection devices.
 - 10. Detailed test procedures to determine performance efficiency of equipment.
 - 11. List of all electrical relay settings including alarm and contact settings.
- B. The CONTRACTOR shall furnish to the ENGINEER 5 identical sets of technical manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard size, 3-ring, loose-leaf vinyl plastic hard cover binder suitable for bookshelf storage. Binder ring size shall not exceed 2.5 inches. A table of contents shall be provided which indicates all equipment in the technical manuals.
- C. All technical manuals shall be submitted in final form to the ENGINEER not later than the 75 percent of construction completion date. All discrepancies found by the ENGINEER in the technical manuals shall be corrected by the CONTRACTOR within 30 days from the date of written notification by the ENGINEER.
- D. Incomplete or unacceptable technical manuals at the 75 percent construction completion point shall constitute sufficient justification to withhold payment for WORK completed beyond that period in accordance with Paragraph "Technical Manual Submittal" of Section 01700, "Project Closeout."

1.5 SPARE PARTS LIST SUBMITTAL

- A. The CONTRACTOR shall keep and maintain, at the job site, one record set of Drawings. On these, it shall mark all Project conditions, locations, configurations, and any other changes or

SECTION 01330 – CONTRACTOR SUBMITTALS

deviations which may vary from the details represented on the original contract Drawings, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the contract Drawings. Said record Drawings shall be supplemented by any detailed sketches as necessary or directed to indicate, fully, the WORK as actually constructed. These master record Drawings, of the CONTRACTOR's representation of as-built conditions, including all revisions made necessary by addenda, Change Orders, and the like shall be maintained up-to-date during the progress of the WORK.

1.6 RECORD DRAWINGS SUBMITTAL

- A. The CONTRACTOR shall keep and maintain, at the job site, one record set of Drawings. On these, it shall mark all Project conditions, locations, configurations, and any other changes or deviations which may vary from the details represented on the original contract Drawings, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the contract Drawings. Said record Drawings shall be supplemented by any detailed sketches as necessary or directed to indicate, fully, the WORK as actually constructed. These master record Drawings, of the CONTRACTOR's representation of as-built conditions, including all revisions made necessary by addenda, Change Orders, and the like shall be maintained up-to-date during the progress of the WORK.
- B. In the case of those Drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record Drawings shall be updated by indicating those portions which are superseded by Change Order Drawings or final Shop Drawings, and by including appropriate reference information describing the Change Orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers.
- C. Record Drawings shall be accessible to the ENGINEER at all times during the construction period and shall be delivered to the ENGINEER on the 20th working day of every third month after the month in which the Notice to Proceed is given as well as upon completion of the WORK.
- D. Final payment will not be acted upon until the CONTRACTOR-prepared record Drawings have been delivered to the ENGINEER.

1.7 PROGRESS SCHEDULES

- A. The progress schedule shall be in Bar Chart or Critical Path Method (CPM) form, as required by the ENGINEER.
- B. The progress schedule shall show the order in which the CONTRACTOR proposes to carry out the WORK and the contemplated date on which the CONTRACTOR and their Subcontractors will start and finish each of the salient features of the work, including any scheduled periods of shutdown. The schedule shall also indicate any anticipated periods of multiple-shift work.
- C. Upon substantial changes to the CONTRACTOR's progress schedule of WORK or upon request of the ENGINEER, the CONTRACTOR shall submit a revised progress schedule(s) in the form required. Such revised schedule(s) shall conform to the Contract Time and take into account delays which may have been encountered in the performance of the WORK. In

SECTION 01330 – CONTRACTOR SUBMITTALS

submitting a revised schedule, the CONTRACTOR shall state specifically the reason for the revision and the adjustments made in his schedule or methods of operation to ensure the completion of all the WORK within the Contract Time.

1.8 PROPOSED SUBSTITUTES OR “OR-EQUAL” ITEM SUBMITTAL

- A. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the naming of the item is intended to establish the type, function, and quality required. If the name is followed by the words “or-equal” indicating that a substitution is permitted, materials or equipment of other Suppliers may be accepted by the ENGINEER if sufficient information is submitted by the CONTRACTOR to allow the ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named, subject to the following requirements:
1. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the CONTRACTOR.
 2. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the ENGINEER’s decision shall be final.
 3. The ENGINEER may require the CONTRACTOR, to furnish at the CONTRACTOR’s expense, additional data about the proposed substitute.
 4. The OWNER may require the CONTRACTOR to furnish at the CONTRACTOR’s expense a special performance guarantee or other surety with respect to any substitute.
 5. Acceptance by the ENGINEER of a substitute item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
 6. The CONTRACTOR shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the CONTRACTOR’s WORK, the WORK of its Subcontractors and of other contractors, and shall effect such changes without cost to the OWNER. This shall include the cost for redesign and claims of other contractors affected by the resulting change.
- B. The procedure for review by the ENGINEER will include the following:
1. If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the ENGINEER on the “Substitution Request Form” for acceptance thereof.
 2. Unless otherwise provided by law or authorized in writing by the ENGINEER, the “Substitution Request Form(s)” shall be submitted within the 21-day period after Notice of Award.
 3. Wherever a proposed substitute material or equipment has not been submitted within said 21-day period, or wherever the submission of a proposed substitute material or equipment has been judged to be unacceptable by the ENGINEER, the CONTRACTOR shall provide material or equipment named in the Contract Documents.
 4. The CONTRACTOR shall certify that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified, and be suited to the same use as that specified.
 5. The ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. In no case will this reasonable time period be less than 30 days.
 6. As applicable, no shop drawing Submittals will be made for a substitute item nor will any substitute item be ordered, installed, or utilized without the ENGINEER’s prior written acceptance of the CONTRACTOR’s “Substitution Request Form” which will be evidenced by a Change Order.

SECTION 01330 – CONTRACTOR SUBMITTALS

7. The ENGINEER will record the time required by the ENGINEER in evaluating substitutions proposed by the CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not the ENGINEER accepts a proposed substitute, the CONTRACTOR shall reimburse the OWNER for the charges of the ENGINEER for evaluating each proposed substitute.
- C. The CONTRACTOR's application using the "Substitution Request Forms" shall contain the following statements and/or information which shall be considered by the ENGINEER in evaluating the proposed substitution:
 1. The evaluation and acceptance of the proposed substitute will not prejudice the CONTRACTOR's achievement of substantial completion on time.
 2. Whether or not acceptance of the substitute for use in the WORK will require a change in any of the Contract Documents to adopt the design to the proposed substitute.
 3. Whether or not incorporation or use of the substitute in connection with the WORK is subject to payment of any license fee or royalty.
 4. All variations of the proposed substitute for that specified will be identified.
 5. Available maintenance, repair, and replacement service and its estimated cost will be indicated.
 6. Itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims of other contractors affected by the resulting change.

1.9 MATERIAL CERTIFICATION SUBMITTAL

- A. The ENGINEER may permit the use, prior to sampling, inspection and testing, of certain materials or assemblies when accompanied by manufacturer's material certifications stating that such materials or assemblies fully comply with the requirements of the Contract. The certification shall be signed by the manufacturer, and will specifically reference the material's compliance with the AASHTO, ASTM, and/or CBJ Standards specified in the applicable Contract Documents.
- B. Material Certifications shall be submitted to the ENGINEER prior to incorporating the item into the WORK.
- C. Materials or assemblies used on the basis of material certifications may be sampled, inspected and/or tested at any time, and if found not in conformity with these Specifications, will be subject to rejection whether in place or not.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

(SUBSTITUTION REQUEST FORM – next page)

SECTION 01330 – CONTRACTOR SUBMITTALS

CBJ Engineering Department SUBSTITUTION REQUEST FORM

TO: _____ Project: _____
Contract No. _____
OWNER: _____

SPECIFIED ITEM:

Section	Page	Paragraph	Description
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The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: _____

Attached data includes product description, Specifications, Drawings, photographs, performance, and test data adequate for evaluation of the request. Applicable portions of the data are clearly identified.

The undersigned states that the following paragraphs, unless modified on attachments are correct:

1. The proposed substitution does not affect dimensions shown on Drawings and will not require a change in any of the Contract Documents.
2. The undersigned will pay for changes to the design, including engineering design, detailing, and construction costs caused by the requested substitution which is estimated to be \$_____.
3. The proposed substitution will have no adverse effect on other contractors, the construction schedule (specifically the date of substantial completion), or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The incorporation or use of the substitute in connection with the WORK is not subject to payment of any license fee or royalty.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the Specified item.

Submitted by CONTRACTOR: _____ Reviewed by ARCHITECT/ENGINEER _____

Signature _____	<input type="checkbox"/> Accepted	<input type="checkbox"/> Accepted as Noted
Firm: _____	<input type="checkbox"/> Not Accepted	<input type="checkbox"/> Received Too Late
By: _____	Date: _____	
Title: _____	Telephone: _____	
Date: _____		
Attachments: _____		

END OF SECTION

SECTION 01350 – HEALTH AND SAFETY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This Section covers the requirements for compliance with health and safety requirements for the protection of CONTRACTOR and OWNER personnel, property, and resources.

1.2 REFERENCES

- A. Standards, Specifications, Recommended Practices, and listed herein are part of this Section to the extent referenced.

- B. American National Standards Institute (ANSI)

- 1. ANSI A10.32 (2004; R2013) Personal Fall Protection – Safety Requirements for Construction and Demolition Operations
 - 2. ANSI/ASSE A10.34 (2001; R2012) Protection of the Public on or Adjacent to Construction Sites
 - 3. ANSI Z359.1 (2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components

- C. ASME International (ASME):

- 1. ASME B30.5 (2004) Mobile and Locomotive Cranes
 - 2. ASME B30.8 (2010) Floating Cranes and Floating Derricks

- D. National Fire Protection Association (NFPA):

- 1. NFPA 10 (2002) Portable Fire Extinguishers
 - 2. NFPA 241 (2000) Safeguarding Construction, Alteration, and Demolition Operations
 - 3. NFPA 70 (2011) National Electric Code (NEC)
 - 4. NFPA 70E (2004) Electrical Safety in the Workplace

- E. U.S. National Archives and Records Administration (NARA):

- 1. 29 CFR 1910 Occupational Safety and Health Standards
 - 2. 29 CFR 1910.146 Permit-Required Confined Space
 - 3. 29 CFR 1915 Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
 - 4. 29 CFR 1919 Gear Certification
 - 5. 29 CFR 1926 Safety and Health Regulations for Construction
 - 6. 29 CFR 1926.500 Fall Protection

1.3 PLAN

- A. Within Five (5) days after receipt of Notice to Proceed, the CONTRACTOR shall submit the following for approval:
 - 1. Site specific Accident Prevention Plan (APP)
 - 2. Activity Hazard Analysis (AHA)
 - 3. Crane Critical Lift Plan

SECTION 01350 – HEALTH AND SAFETY

4. The names and proof of qualifications/certifications for personnel required in paragraph 1.6 A of this Section.

B. Test Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

1. Accident Reports
2. Monthly Exposure Reports
3. Crane Reports
4. Regulator Citations and Violations

C. Certificates

1. Confined Space Entry Permit
2. Hot Work Permit
3. CONTRACTOR Safety Self-Evaluation Checklist
4. Third Party Certification of Barge-Mounted Mobile Cranes (if used)
5. Crain Certificate of Compliance (if used)
6. Other Machinery & Mechanized Equipment Certification (as required)

1.4 DEFINITIONS

- A. Competent Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.
- B. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.
- C. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.
- D. Operating Envelope
 1. The area surrounding any crane.
 2. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).
- E. Qualified Person for Fall Protection
 1. A person with a recognized degree or professional certificate, and with extensive knowledge, training and experience in the field of fall protection, who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.
- F. Recordable Injuries or Illnesses
 1. Any work-related injury or illness that results in:
 - a. Death, regardless of the time between the injury and death, or the length of the illness
 - b. Days away from work (any time lost after day of injury/illness onset)
 - c. Restricted work

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- d. Transfer to another job
- e. Medical treatment beyond first aid
- f. Loss of consciousness
- g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a) through (f) above.

G. Weight Handling Equipment (WHE) Accident

- 1. A WHE accident occurs when any one or more of the six elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and/or collision, including unplanned contact between the load, crane, and/or other objects.
- 2. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

1.5 CONTACTOR SAFETY SELF-EVALUATION CHECKLIST

- A. ENGINEER will provide a "CONTRACTOR Safety Self-Evaluation checklist" to the CONTRACTOR at the pre-construction conference.
- B. The checklist will be completed monthly by the CONTRACTOR and submitted with each request for payment voucher.
- C. An acceptable score of 90 or greater is required.
- D. Failure to submit the completed safety self-evaluation checklist or achieve a score of at least 90, will result in a retention of up to 10 percent of the voucher.

1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

A. Personnel Qualifications

- 1. Site Safety and Health Officer (SSHO) shall be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the CONTRACTOR. The CONTRACTOR Quality Control (QC) person can be the SSHO on this Project. The SSHO shall meet the following requirements:
 - a. A minimum of 3 years safety work on similar project. 30-hour OSHA construction safety class or equivalent within last 3 years.
 - b. Competent person training as needed.
- 2. Competent Person for Confined Space Entry who holds current certification of training the meets the requirements of 29 CFR 1910.146.
- 3. Crane operators shall be designated as qualified by a source that qualifies crane operators (i.e., union, government agency, or organization that tests and qualifies crane operators.

B. Personnel Duties

- 1. Site Safety and Health Officer / Superintendent

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- a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections.
- b. Safety inspection logs shall be attached to the CONTRACTOR's daily production report.
- c. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and Sub-Contractors.
- d. Maintain applicable safety reference material on the job site.
- e. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
- f. Implement and enforce accepted APPs and AHAs.
- g. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution.
- h. A list of unresolved safety and health deficiencies shall be posted on the safety bulletin board.
- i. Ensure Sub-Contractor compliance with safety and health requirements.

Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a Project work stoppage. The Project work stoppage will remain in effect pending approval of a suitable replacement.

2. Meetings

- a. Preconstruction Conference
 - i. CONTRACTOR representatives who have a responsibility or significant role in accident prevention on the Project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the AHAs and special plans, program and procedures associated with it).
 - ii. The CONTRACTOR shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the CONTRACTOR and the ENGINEER's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude Project delays.
 - iii. Deficiencies in the submitted APP will be brought to the attention of the CONTRACTOR at the preconstruction conference, and the CONTRACTOR shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.
- b. Safety Meetings
 - i. Safety Meetings shall be conducted and at least once a month for all supervisors at the Project locations and at least once a week by supervisors or foremen for all workers.
 - ii. Meetings shall be documented by minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the CONTRACTOR's daily production report.

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1.7 ACCIDENT PREVENTION PLAN

- A. The CONTRACTOR shall use a qualified person to prepare the written site-specific APP. Prepare the Specific requirements for some of the APP elements are described below. The APP shall be job-specific and shall address any unusual or unique aspects of the Project or activity for which it is written. The APP shall interface with the CONTRACTOR's overall safety and health program. Any portions of the CONTRACTOR's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site-specific. The OWNER considers the CONTRACTOR to be the "controlling authority" for all work site safety and health of the Sub-Contractors. CONTRACTOR is responsible for informing their Sub-Contractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting Sub-Contractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the CONTRACTOR, the on-site superintendent, the designated site safety and health officer and any designated CSP and/or CIH.
1. Submit the APP to the ENGINEER 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.
 2. Once accepted by the ENGINEER, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the ENGINEER, until the matter has been rectified.
 3. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the ENGINEER, project superintendent, SSHO and quality control manager.
 4. Should any hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard.
 - a. Notify the ENGINEER within 24 hours of discovery.
 - b. Eliminate/remove the hazard. In the interim, all necessary action shall be taken to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ANSI/ASSE A10.34,) and the environment.
 5. Copies of the accepted plan will be maintained at the ENGINEER's office and at the job site.
 6. The APP shall be continuously reviewed and amended, as necessary, throughout the life of the contract.
 7. Unusual or high-hazard activities not identified in the original APP shall be incorporated in the plan as they are discovered.
- B. The APP shall interface with the CONTRACTOR's overall safety and health program and shall at a minimum include the following:
1. Signature Sheet: Title, signature, and phone number of the following:
 - a. Plan preparer
 - b. Plan must be approved by CONTRACTOR company/corporate office authorized to obligate the company (e.g. owner, company president, region vice president, etc.)
 - c. Plan concurrence (e.g., Chief of Operations, Corporate Chief of Safety, project manager or superintendent, project safety profession, project QC). Provide concurrence of other applicable corporate and project personnel including Sub-Contractors.
 2. Background Information
 - a. Contactor
 - b. Project number

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- c. Project name
- d. Brief Project description, description of the work to be performed and location (map)
- e. CONTRACTOR accident experience (provide information such as experience modification rate, OSHA 300 Forms, corporate safety trend analysis, and
- f. Listing of phase of work and hazardous activities requiring AHA.
3. Statement of Safety and Health Policy. Provide a copy of your current corporate/company Safety and Health Policy Statement. Note: In addition to the corporate/company statement, the corporate/company safety program may provide a significant portion of the information required in the APP.
4. Responsibilities and Lines of Authorities
 - a. Identification and accountability of personnel responsible for safety at both corporate and project level.
 - b. Lines of authority.
5. Sub-Contractors:
 - a. Identification of Sub-Contractors
 - b. Means for controlling and coordinating health and safety procedures of Sub-Contractors.
 - c. Safety responsibilities of Sub-Contractors
6. Training
 - a. List subjects to be discussed with employees in safety indoctrination.
 - b. List mandatory training and certifications that are applicable to this Project (e.g., explosive actuated tools, confined space entry, crane operator, diver, and hot work) and any requirements for periodic retraining/recertification.
 - c. Identify requirements for emergency response training.
 - d. Outline requirements (who attends, when given, who will conduct, etc.) for supervisory and employee safety meetings.
7. Safety and Health Inspections. Provide details on:
 - a. Who will conduct safety inspections (e.g., project manager, safety profession, QC, supervisors, employees), when inspections will be conducted, how the inspections will be recorded, deficiency tracking system, follow-up procedures, etc. The names of competent and/or qualified person(s) and proof of competency/qualification to meet specific OSHA competent/qualified person(s) requirements must be attached.
 - b. Any external inspections/certifications that may be required (e.g., US Coast Guard).
8. Safety and Health Expectations, Incentive Programs, and Compliance
 - a. The company/corporation's written safety program goals, objectives, and accident experience goals for this contract should be provided.
 - b. A brief description of the company/corporation's safety incentive programs (if any) should be provided.
 - c. Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation or safety requirements) should be identified.
 - d. Provide written company/corporation procedures for holding managers and supervisors accountable for safety.
9. Accident Reporting. The CONTRACTOR shall identify who, how, and when the following will be completed:
 - a. Exposure data (man-hours worked)
 - b. Accident investigations, reports, and logs
 - c. Immediate notification of major accidents
10. Medical Support. Outline on-site medical support and off-site medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of on-site CONTRACTOR personnel trained in first aid and CPR.

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11. Personal Protective Equipment (PPE). Outline procedures (who, when, how) for conducting hazard assessments and written certifications for use of PPE. Outline procedures to be followed to assure the proper use, selection, and maintenance of personal protective and lifesaving equipment (e.g., protective footwear, protective gloves, hard hats, safety glasses, hearing protection, body harnesses, lanyards)
12. Plans Required by the Safety Manual
 - a. Layout plans
 - b. Emergency response plans:
 - i. Procedures and tests
 - ii. Spill plans
 - iii. Firefighting plan
 - iv. Posting of emergency telephone numbers
 - v. Man overboard
 - c. Hazard communication program. Provide the location of MSDS, records of CONTRACTOR employee training, and inventory of hazardous materials (including approximate quantities and a site map) that will be brought onto the Project site by the CONTRACTOR and/or Sub-Contractor.
 - d. Respiratory protection plan
 - e. Health hazard control program
 - f. Lead abatement plan
 - g. Abrasive blasting
 - h. Coating application
 - i. Confined space
 - j. Hazardous energy control plan
 - k. Critical lift procedures
 - l. Contingency plan for severe weather
 - m. Emergency rescue (tunneling)
 - n. Compressed air plan
 - o. Formwork and shoring erection and removal plans
 - p. Safety and health plan
 - q. Diving plan
 - r. Plan for prevention of alcohol and drug abuse
 - s. Fall protection plan
 - t. Low light and night operations lighting plan
 - u. Site sanitation plan
 - v. Fire Prevention Plan
13. Contactor Information. The CONTRACTOR shall provide information on how they will meet the requirements of applicable Sections of this manual in the APP. As a minimum, excavations, scaffolding, medical and first-aid requirements, sanitation, person, fire prevention, machinery and mechanized equipment, electrical safety, public safety requirements; and chemical, physical agent, and biological occupational exposure prevention requirements shall be addressed as applicable.
14. Site-Specific Hazards and Controls. Detailed site-specific hazards and controls shall be provided in the AHA for each activity of the operation.
15. Qualifications of competent and of qualified persons. As a minimum, competent persons shall be designated and qualifications submitted for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.

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16. Confined Space Entry Plan. Develop a confined space entry plan in accordance with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by CONTRACTOR personnel and the coordination with emergency responders.
17. Crane Critical Lift Plan.
 - a. Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall be submitted 15 calendar days prior to on-site work and include the following:
 - i. For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.550(g).
 - ii. For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements.
18. Fall Protection and Prevention (FP&P) Plan.
 - a. The plan shall be site specific and address all fall hazards in the work place and during different phases of construction.
 - b. It shall address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet.
 - c. A qualified person for fall protection shall prepare and sign the plan. The plan shall include fall protection and prevention systems, equipment and methods employed for every phase of work, responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods.
 - d. Fall Protection and Prevention Plan shall be revised [every six months] for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits.
 - e. The accepted Fall Protection and Prevention Plan shall be kept and maintained at the job site for the duration of the Project.
 - f. The Fall Protection and Prevention Plan shall be included in the APP.

1.8 ACTIVITIES HAZARD ANALYSIS

- A. Submit the AHA for review at least 15 calendar days prior to the start of each phase. Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.
- B. The AHA list will be reviewed periodically (at least monthly) at the CONTRACTOR supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.
- C. The activity hazard analyses shall be developed using the Project schedule as the basis for the activities performed. Any activities listed on the Project schedule will require an AHA. The AHAs will be developed by the CONTRACTOR, supplier or Sub-Contractor and provided to the prime CONTRACTOR for submittal to the OWNER.

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1.9 DISPLAY OF SAFETY INFORMATION

- A. Within 1 calendar day after commencement of work, erect a safety bulletin board at the job site. The safety bulletin board shall include information and be maintained as required.
- B. Additional items required to be posted include:
 - 1. Confined space entry permit.
 - 2. Hot work permit.

1.10 SITE SAFETY REFERENCE MATERIALS

- A. Maintain safety-related references applicable to the Project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

- A. CONTRACTORs will arrange for their own emergency medical treatment.
- B. The OWNER has no responsibility to provide emergency medical treatment.

1.12 REPORTS

- A. Accident Reports
 - 1. For recordable injuries and illnesses, and property damage accidents resulting in at least \$2,000 in damages, the CONTRACTOR shall conduct an accident investigation to establish the root cause(s) of the accident, complete a Significant Incident Report and provide the report to the OWNER within 5 calendar day(s) of the accident. The OWNER will provide copies of any required or special forms.
 - 2. For any weight handling equipment accident (including rigging gear accidents) the Prime CONTRACTOR shall conduct an accident investigation to establish the root cause(s) of the accident, complete the WHE Accident Report (Crane and Rigging Gear) form and provide the report to the OWNER within 30 calendar days of the accident. Crane operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer.
- B. Accident Notification
 - 1. Notify the OWNER as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000, or any weight handling equipment accident. Information shall include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the OWNER's investigation team arrives on-site and OWNER's investigation is conducted.

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C. Monthly Exposure Reports

1. Monthly exposure reporting to the OWNER is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor.

D. Crane Reports

1. Submit crane inspection reports as specified herein with Daily Reports of Inspections.

E. Certification of Compliance

1. The CONTRACTOR shall provide a Certificate of Compliance for each crane entering an activity under this contract. Certificate shall state that the crane and rigging gear meet applicable OSHA regulations (with the CONTRACTOR citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance shall comply with 29 CFR 1926. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. The CONTRACTOR shall also certify that all of its crane operators working on the Project have been trained in the proper use of all safety devices (e.g., anti-two block devices). These certifications shall be posted on the crane.

F. Third Party Certification of Barge-Mounted Mobile Cranes

1. Barge-mounted mobile cranes shall be certified in accordance with 29 CFR 1919 by an OSHA accredited person.

1.13 HOT WORK

- A. Prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, a written permit shall be requested from the OWNER.
- B. CONTRACTOR is required to meet the following criteria before a permit is issued:
 1. The CONTRACTOR will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work".
 2. All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity.
 3. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of 30 minutes after completion of the task or as specified on the hot work permit.
 4. When starting work in the facility, CONTRACTOR shall require their personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency fire department phone number. ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE OWNER IMMEDIATELY.

1.14 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, ATM, and AASHTO as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the

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ENGINEER will insure the OWNER that the quality of the workmanship is in full accord with the Contract Documents.

- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the ENGINEER to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

1.15 INSPECTION AND TESTING LABORATORY SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
 - 1. OWNER will appoint, employ, and pay for services of an independent firm to perform inspection and testing or will perform inspection and testing itself unless specific quality control testing is required by the CONTRACTOR under these specifications.
 - 2. The ENGINEER will perform inspections as specified in individual specification sections, unless specified otherwise.
 - 3. Reports will be submitted by the independent firm to the ENGINEER in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 - 4. The CONTRACTOR shall cooperate with the ENGINEER or independent firm and furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.
 - 5. The CONTRACTOR shall notify ENGINEER 24 hours prior to the expected time for operations requiring inspection and laboratory testing services.
 - 6. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. The CONTRACTOR shall bear all costs from such retesting at no additional cost to the OWNER.
 - 7. For samples and tests required for CONTRACTOR'S use, the CONTRACTOR shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the CONTRACTOR'S use shall be included in the Contract Price.

PART 2 - PRODUCTS

2.1 CONFINED SPACE SIGNAGE

- A. The CONTRACTOR shall provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces. Signs wording: "DANGER--PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER -" in bold letters a minimum of one inch in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 5 feet.

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2.2 FALL PROTECTION ANCHORAGE

- A. Fall protection anchorage, conforming to ANSI Z359.1, installed under the supervision of a qualified person in fall protection, shall be left in place for continued customer use and so identified by signage stating the capacity of the anchorage (strength and number of persons who may be tied-off to it at any one time).

PART 3 - EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

- A. The CONTRACTOR shall comply with NFPA 241, the APP, the AHA, Federal and/or State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard shall prevail.
- B. Hazardous Material Use
 - 1. Each hazardous material must receive approval prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material.
 - 2. Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, lead-based paint are prohibited. The OWNER, upon written request by the CONTRACTOR, may consider exceptions to the use of any of the above excluded materials.
 - 3. The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the ENGINEER and OWNER immediately. Within 14 calendar days the OWNER will determine if the material is hazardous. If material is not hazardous or poses no danger, the OWNER will direct the CONTRACTOR to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the OWNER will issue a Contract modification.

3.2 PRE-OUTAGE COORDINATION MEETING

- A. CONTRACTOR is required to apply for utility outages at least 15 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, the CONTRACTOR shall attend a pre-outage coordination meeting with the OWNER and the Public Utilities representative to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

- A. The CONTRACTOR shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and

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control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures.

- B. The CONTRACTOR shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the CONTRACTOR shall provide training for each employee who might be exposed to fall hazards. A competent person for fall protection shall provide the training.
- C. Fall Protection Equipment and Systems
 - 1. The CONTRACTOR shall enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard.
 - 2. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water.
 - 3. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform.
 - 4. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M and ANSI A10.32.
- D. Personal Fall Arrest Equipment
 - 1. Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1.
 - 2. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device.
 - 3. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system).
 - 4. Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system.
 - 5. Only locking snap hooks and carabineers shall be used. Webbing, straps, and ropes shall be made of synthetic fiber.
 - 6. The maximum free fall distance when using fall arrest equipment shall not exceed 6 feet.
 - 7. The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.
- E. Horizontal Lifelines
 - 1. Horizontal lifelines shall be designed, installed, certified and used under the supervision of a qualified person for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).
- F. Guardrails and Safety Nets
 - 1. Guardrails and safety nets shall be designed, installed and used in accordance with 29 CFR 1926 Subpart M.

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G. Rescue and Evacuation Procedures

1. When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. A Rescue and Evacuation Plan shall be prepared by the contractor and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. The Rescue and Evacuation Plan shall be included in the AHA for the phase of work, in the FP&P Plan, and the APP.

3.4 SCAFFOLDING

A. Employees shall be provided with a safe means of access to the work area on the scaffold.

1. Climbing of any scaffold braces or supports not specifically designed for access is prohibited.
2. Access to scaffold platforms greater than 20 feet in height shall be accessed by use of a scaffold stair system.
3. Vertical ladders commonly provided by scaffold system manufacturers shall not be used for accessing scaffold platforms greater than 20 feet in height.
4. The use of an adequate gate is required.
5. CONTRACTOR shall ensure that employees are qualified to perform scaffold erection and dismantling.
6. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan.
7. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.
8. Special care shall be given to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material is prohibited.
9. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base.
10. Work platforms shall be placed on mudsills.
11. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet.
12. Delineate fall protection requirements when working above six feet or above dangerous operations in the FP&P Plan and AHA for the phase of work.
13. The use of stilts for gaining additional height in construction, renovation, repair or maintenance work is prohibited.

3.5 EQUIPMENT

A. Material Handling Equipment

1. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
2. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.

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3. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

B. Weight Handling Equipment

1. The CONTRACTOR shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.
2. The CONTRACTOR shall comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and ASME B30.8 for floating cranes and floating derricks.
3. Under no circumstance shall a CONTRACTOR make a lift at or above 90% of the cranes rated capacity in any configuration.
4. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of ASME B30.5 or ASME B30.22 as applicable.
5. Crane suspended personnel work platforms (baskets) shall not be used unless the CONTRACTOR proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.
6. Portable fire extinguishers shall be inspected, maintained, and recharged as specified in NFPA 10, Standard for Portable Fire Extinguishers.
7. All employees shall be kept clear of loads about to be lifted and of suspended loads.
8. The CONTRACTOR shall use cribbing when performing lifts on outriggers.
9. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
10. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
11. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by OWNER personnel.
12. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by OWNER personnel.
13. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
14. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations.
 - a. Prior to conducting lifting operations the contractor shall set a maximum wind speed at which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site.
 - b. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

C. Equipment and Mechanized Equipment

1. Proof of qualifications for operator shall be kept on the project site for review.
2. Manufacture specifications or owner's manual for the equipment shall be on-site and reviewed for additional safety precautions or requirements that are sometimes not

SECTION 01350 – HEALTH AND SAFETY

identified by OSHA. Such additional safety precautions or requirements shall be incorporated into the AHAs.

3.6 EXCAVATIONS

A. Utility Locations

1. Prior to digging, the appropriate digging permit must be obtained.
2. All underground utilities in the work area must be positively identified in accordance with Section 01530.
3. Any markings made during the utility investigation must be maintained throughout the contract.

B. Utility Location Verification

1. The CONTRACTOR must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system.
2. Digging within 2 feet of a known utility must not be performed by means of mechanical equipment; hand digging shall be used.
3. If construction is parallel to an existing utility the utility shall be exposed by hand digging every 100 feet if parallel within 5 feet of the excavation.

C. Shoring Systems

1. Trench and shoring systems must be identified in the accepted safety plan and AHA.
2. Manufacture tabulated data and specifications or registered engineer tabulated data for shoring or benching systems shall be readily available on-site for review.
3. Job-made shoring or shielding shall have the registered professional engineer stamp, specifications, and tabulated data.
4. Extreme care must be used when excavating near direct burial electric underground cables.

D. Trenching Machinery

1. Trenching machines with digging chain drives shall be operated only when the spotters/laborers are in plain view of the operator.
2. Operator and spotters/laborers shall be provided training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating.
3. Documentation of the training shall be kept on file at the project site.

3.7 ELECTRICAL

- A. Underground electrical spaces must be certified safe for entry before entering to conduct work.
- B. Cables that will be cut must be positively identified and de-energized prior to performing each cut.
- C. Positive cable identification must be made prior to submitting any outage request for electrical systems.
- D. Arrangements are to be coordinated with the OWNER and Local Utilities for identification.

SECTION 01350 – HEALTH AND SAFETY

- E. The OWNER will not accept an outage request until the CONTRACTOR satisfactorily documents that the circuits have been clearly identified.
- F. Perform all high voltage cable cutting remotely using hydraulic cutting tool.
- G. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation.
- H. Plan so that work near energized parts is minimized to the fullest extent possible.
- I. Use of electrical outages clear of any energized electrical sources is the preferred method.
- J. When working in energized substations, only qualified electrical workers shall be permitted to enter.
- K. When work requires CONTRACTOR to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses.
- L. In addition, provide electrical arc flash protection for personnel as required by NFPA 70E.
- M. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the CONTRACTOR's AHA.

3.8 WORK IN CONFINED SPACES

- A. The CONTRACTOR shall comply with the requirements in OSHA 29 CFR 1910.146 and OSHA 29 CFR 1926.21(b)(6). Any potential for a hazard in the confined space requires a permit system to be used.
- B. Entry Procedures
 - 1. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented.
 - 2. All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.
- C. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its action level.
- D. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

END OF SECTION

SECTION 01400 – QUALITY CONTROL

PART 1 - GENERAL

1.1 DEFINITION

- A. Specific quality control requirements for the WORK are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.2 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, ATM, and AASHTO as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the ENGINEER will insure the OWNER that the quality of the workmanship is in full accord with the Contract Documents.
- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the ENGINEER to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

1.3 INSPECTION AND TESTING LABORATORY SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
 - 1. OWNER will appoint, employ, and pay for services of an independent firm to perform inspection and testing or will perform inspection and testing itself unless specific quality control testing is required by the CONTRACTOR under these specifications.
 - 2. The ENGINEER will perform inspections as specified in individual specification sections, unless specified otherwise.
 - 3. Reports will be submitted by the independent firm to the ENGINEER in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 - 4. The CONTRACTOR shall cooperate with the ENGINEER or independent firm and furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.
 - 5. The CONTRACTOR shall notify ENGINEER 24 hours prior to the expected time for operations requiring inspection and laboratory testing services.
 - 6. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. The

SECTION 01400 – QUALITY CONTROL

CONTRACTOR shall bear all costs from such retesting at no additional cost to the OWNER.

7. For samples and tests required for CONTRACTOR'S use, the CONTRACTOR shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the CONTRACTOR'S use shall be included in the Contract Price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Inspection: The CONTRACTOR shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation, and reject damaged and defective items.
- B. Measurements: The CONTRACTOR shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.
- C. Manufacturer's Instructions: Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION

SECTION 01505 - MOBILIZATION

PART 1 - GENERAL

1.1 GENERAL

- A. Mobilization shall include the obtaining of all PERMITS; moving onto the site of all materials and equipment; furnishing and erecting temporary buildings, and other construction facilities; and implementing security requirements; all as required for the proper performance and completion of the WORK. Mobilization shall include the following principal items:
1. Moving on to the site of all CONTRACTOR's materials and equipment required for operations.
 2. Providing all on-site communication facilities, including radios and cellular phones.
 3. Obtaining all required PERMITS.
 4. Having all OSHA required notices and establishment of safety programs.
 5. Having the CONTRACTOR's superintendent at the job site full time.
 6. Submitting initial submittals.
 7. Installation of CBJ Project sign in accordance with CBJ Standard Detail 127A. Sign graphics will be provided by the OWNER. All other materials and installation shall be provided by the CONTRACTOR.

1.2 PAYMENT FOR MOBILIZATION

- A. The CONTRACTOR's attention is directed to the condition that no payment for Mobilization, or any part thereof will be approved for payment under the contract until all Mobilization items listed above have been completed as specified.
- B. As soon as practicable after receipt of the Notice to Proceed, the CONTRACTOR shall submit a breakdown to the ENGINEER for approval, which shall show the estimated value of each major component of Mobilization. When approved by the ENGINEER, the breakdown will be the basis for initial progress payments in which Mobilization is included.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01520 - SECURITY

PART 1 - GENERAL

1.1 SECURITY PROGRAM

A. The CONTRACTOR shall:

1. Protect WORK, existing premises and OWNER's operations from theft, vandalism, and unauthorized entry.
2. Coordinate security with OWNER's operations at job mobilization.
3. Maintain program throughout construction period until OWNER's occupancy.

1.2 ENTRY CONTROL

A. The CONTRACTOR shall:

1. Control entry of persons and vehicles onto Project construction site and existing facilities.
2. Allow entry on the construction site only to authorized persons with proper identification.
3. Coordinate access of OWNER's personnel to site in coordination with CONTRACTOR's security forces.

B. OWNER will control entrance of persons and vehicles related to OWNER's operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

PART 1 - GENERAL

1.1 GENERAL

- A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. All utility locates shall be the responsibility of the CONTRACTOR. CALL DIAL BEFORE YOU DIG AT **(907) 586-1333** for locates of all underground utilities within the WORK limits prior to any WORK.
- C. The CONTRACTOR shall verify the exact locations and depths of all utilities and the CONTRACTOR shall make exploratory excavations of all utilities that may interfere with the WORK. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's WORK. Any utility or service in conflict with the WORK will be reburied by the CONTRACTOR prior beginning the WORK to avoid damage.
- D. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

1.2 RIGHTS-OF-WAY

- A. The CONTRACTOR shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, cable television, telegraph, or electric transmission line; any fence; or any other structure, nor shall the CONTRACTOR enter upon the rights-of-way involved until notified by the ENGINEER that the OWNER has secured authority therefore from the proper party. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the OWNER shall determine the sequence and order of the WORK. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the OWNER to the CONTRACTOR so desiring, to the extent, amount, in the manner, and at the times permitted.
- B. No such decision as to the method or time of conducting the WORK or the use of territory shall be made the basis of any claim for delay or damage, except as provided for temporary suspension of the WORK in Article 15 of the General Conditions of the contract.

1.3 PROTECTION OF SURVEY MONUMENTS, STREET AND/OR ROADWAY MARKERS

- A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. All survey monuments, markers or points disturbed by the CONTRACTOR shall be accurately re-established, at the CONTRACTOR's expense unless provided for

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

elsewhere in the contract, after all street or roadway resurfacing has been completed. Re-establishment of all survey monuments shall be by a Registered Alaskan Land Surveyor.

1.4 RESTORATION OF PAVEMENT

- A. General: All paved areas, including asphalt concrete berms, cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement OWNER. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.
- B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.
- C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.
- D. Restoration of Sidewalks or Private Driveways: Wherever sidewalks or private roads have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of time is so fixed, the CONTRACTOR shall maintain said temporary sidewalks or roadways until the final restoration thereof has been made.

1.5 EXISTING UTILITIES AND IMPROVEMENTS

- A. General: The CONTRACTOR shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the CONTRACTOR's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.
- B. Utilities to be Moved: In case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the CONTRACTOR, be notified by the OWNER to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the ENGINEER a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.
- C. Where the proper completion of the WORK requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

CONTRACTOR shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the ENGINEER and the OWNER of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

- D. OWNER's Right of Access: The right is reserved to the OWNER and to the OWNERS of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of this contract.
- E. Underground Utilities Indicated: Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the CONTRACTOR.
- F. Underground Utilities Not Indicated: In the event that the CONTRACTOR damages any existing utility lines that are not indicated or the locations of which are not made known to the CONTRACTOR prior to excavation, a written report thereof shall be made immediately to the ENGINEER. If directed by the ENGINEER, repairs shall be made by the CONTRACTOR under the provisions for changes and extra WORK contained in Articles 10, 11, and 12 of the General Conditions.
- G. All costs of locating, repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the WORK which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such WORK will be paid for as extra WORK in accordance with the provisions of Articles 10, 11, and 12 of the General Conditions.
- H. Approval of Repairs: All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement OWNER before being concealed by backfill or other WORK.
- I. Maintaining in Service: All oil and gasoline pipelines, power, and telephone, cable television or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of the WORK shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the ENGINEER are made with the OWNER of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

1.6 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

- A. General: The CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

the CONTRACTOR or a certified tree company under permit from the jurisdictional agency and/or the OWNER. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.

- B. Trimming: Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material.
- C. Replacement: The CONTRACTOR shall immediately notify the jurisdictional agency and/or the OWNER if any tree is damaged by the CONTRACTOR's operations. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree at its own expense. The tree shall be of a like size and variety as the tree damaged, or, the CONTRACTOR shall pay to the OWNER of said tree a compensatory payment acceptable to the tree OWNER, subject to the approval of the jurisdictional agency or OWNER.

1.7 PROTECTION OF EXISTING STRUCTURES

- A. Compaction Equipment and Operations: The CONTRACTOR shall restrict its compaction operations as necessary to assure no damage occurs to adjacent buildings. This may require the use of smaller compaction equipment than is usually employed for trench backfill and roadway embankment compaction operations when in the vicinity of buildings sensitive to vibrating or other impact-type activities. It shall be the CONTRACTOR's responsibility to determine in which areas of the project the compaction operations must be restricted, to avoid damage to existing buildings. The CONTRACTOR is advised that some structures on the project, especially those founded on steep or unstable ground, and are especially sensitive to vibrations caused by heavy construction equipment. The foregoing restrictions on the size of, and magnitude of impact energy exerted by, compaction equipment will in no way relieve the CONTRACTOR from the compaction requirements as specified in other Sections of the Contract.
- B. The CONTRACTOR shall notify all affected businesses and other residents in advance of any operations that will cause vibrations that may damage belongings within the buildings. All property damage caused by the CONTRACTOR's operations shall be repaired or replaced at CONTRACTOR's expense.

PART 2 - PRODUCTS – (Not Used)

PART 3 - EXECUTION – (Not Used)

END OF SECTION

SECTION 01550 - SITE ACCESS AND STORAGE

PART 1 - GENERAL

- 1.1 **HIGHWAY LIMITATIONS.** The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the CONTRACTOR's responsibility to construct and maintain any haul roads required for its construction operations.
- 1.2 **TEMPORARY CROSSINGS**
- A. General: Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, private residences, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 200 feet shall be provided. The CONTRACTOR shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time, as approved by the ENGINEER.
- B. Temporary Bridges: Wherever necessary, the CONTRACTOR shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the CONTRACTOR shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the ENGINEER prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the CONTRACTOR shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.
- 1.3 **MAINTENANCE OF TRAFFIC**
- A. General: Unless otherwise provided, the roadway undergoing improvements shall be kept open to all traffic by the CONTRACTOR. Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. The CONTRACTOR shall provide unimpeded access through the Project limits for emergency vehicles and make every effort to provide minimum delay to United States Postal Service vehicles and garbage collection vehicles.
- B. Eagan Drive, Marine Way, and South Franklin Street are used by the public. Traffic control devices, warning signs and public notification are required to avoid all risks to the public that uses the roadway. Provide the ENGINEER with CONTRACTOR's traffic control plan meeting DOT&PF approval.
- C. The CONTRACTOR shall submit three (3) copies of a traffic control plan to the ENGINEER for approval a minimum of two (2) weeks prior to construction. The ENGINEER reserves the right to observe these traffic control Plans in use and to make any changes as field conditions warrant. Any changes shall supersede these Plans and be done solely at the CONTRACTOR's expense.

SECTION 01550 - SITE ACCESS AND STORAGE

- D. No street shall be closed to the public without first obtaining permission of the ENGINEER and proper governmental authority. Where so provided on the Plans or otherwise approved by the ENGINEER, the CONTRACTOR may by-pass traffic over a detour route. When no longer required, the detour shall be removed and the approached obliterated.
- E. The CONTRACTOR's equipment shall stop at all points of intersection with the traveling public unless satisfactory traffic control measures, approved in writing by the ENGINEER, are installed and maintained at CONTRACTOR's expense.
- F. At intervals of 48 hours and 24 hours prior to start up of construction operations, and at weekly intervals during the construction period, the CONTRACTOR shall advertise in the JUNEAU EMPIRE and have broadcast on all local radio stations the precise location, time of commencement, and proposed completion date of the WORK scheduled for the following week which will require detouring or otherwise effect public traffic. Detours shall be described in sufficient detail to efficiently inform the traveling public of the modified traffic pattern. The cost of these advertisements shall be considered incidental to other contract Bid items. The CONTRACTOR will notify the property owners 24 hours prior to commencement of WORK.
- G. When, in the opinion of the ENGINEER, conditions are such that the safety and/or convenience of the traveling public is adversely affected, the CONTRACTOR will be immediately notified in writing. The notice will state the defect(s) and the corrective action(s) required. In the event that the CONTRACTOR neglects to take immediate corrective action, the ENGINEER may suspend all WORK on the project until satisfactory corrective action is performed. In the event the CONTRACTOR does not take corrective action within 24 hours, the ENGINEER may order such WORK as deemed necessary for public convince and safety accomplished by outside forces. The cost of this WORK shall be deducted from any monies due or that may become due under the terms or the Contract.
- H. Traffic Control: All locations requiring redirection or stopping of the traveling public shall be properly signed and/or flagged by the CONTRACTOR. For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, flaggers and provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," (MUTCD) published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1) with the current State of Alaska supplements.
- I. The CONTRACTOR shall take all necessary precautions for the protection of the WORK and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety Regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.
- J. Special pedestrian detours are often necessary in areas adjacent to new construction or demolition of existing structures. The ENGINEER shall determine when walkways are required. Plans for walkways must be approved by the ENGINEER.

SECTION 01550 - SITE ACCESS AND STORAGE

- K. The CONTRACTOR shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.
- L. Temporary Street Closure: If closure of any street is required during construction, the CONTRACTOR shall apply in writing to the City ENGINEER and any other jurisdictional agency at least 30 days in advance of the required closure and again at 48 hours. A Detour and Traffic Control Plan shall accompany the application.
- M. The CONTRACTOR shall notify the Police and Fire Departments and any other affected agency of all planned street closures. Notification shall consist of giving the time of commencement and proposed date of completion of WORK and names of street, schedule of operations, and routes of detours. Such notification shall be given at least 48 hours before such closure is to take effect.
- N. Temporary Driveway Closure: The CONTRACTOR shall maintain access to all residential, commercial and street approaches. Any temporary closures shall require prior approval by the ENGINEER. The CONTRACTOR shall notify the OWNER or occupant (if not owner-occupied) of the closure of the driveways to be closed more than one (1) eight-hour work day at least three (3) working days prior to the closure. The CONTRACTOR shall minimize the inconvenience and minimize the time period that the driveways will be closed. The CONTRACTOR shall fully explain to the owner/occupant how long the WORK will take and when closure is to start.
- O. On-Site Cellular Phones: The CONTRACTOR shall maintain one active cellular phone at the project site at all times with the phone number provided to the CBJ Fire, Police and Engineering Departments. The cellular phone shall be carried by the person in charge of the field operations. The CONTRACTOR shall provide and allow the use of the CONTRACTOR's radio frequency to facilitate communication between the CONTRACTOR and the ENGINEER.

1.4 CONTRACTOR'S WORK AND STORAGE AREA

- A. The CONTRACTOR shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the WORK.
- B. Should the CONTRACTOR find it necessary to use any additional land for its camp or for other purposes during the construction of the WORK, it shall provide for the use of such lands at its own expense.
- C. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.
 - 1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are all products labeled with any of the following terms: **Warning, Caution, Poisonous, Toxic, Flammable, Corrosive, Reactive, or Explosive**. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, two-part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.
 - 2. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.
 - 3. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the site.

SECTION 01550 - SITE ACCESS AND STORAGE

4. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.
5. The separate storage area shall be inspected by the ENGINEER prior to construction of the area, upon completion of construction of the area, and upon cleanup and removal of the area.
6. All hazardous materials which are delivered in containers shall be stored in the original containers until use. Hazardous materials which are delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

1.5 PARKING

- A. The CONTRACTOR shall direct its employees to park in areas as directed by the ENGINEER and or OWNER.
- B. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01560 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

- 1.1 **DUST ABATEMENT.** The CONTRACTOR shall furnish all labor, equipment, and means required and shall carry out effective measures wherever and as often as necessary to prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity. The CONTRACTOR shall be responsible for any damage resulting from any dust originating from its operations. The dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the ENGINEER.
- 1.2 **RUBBISH CONTROL.** During the progress of the WORK, the CONTRACTOR shall keep the site of the WORK and other areas used by it in a neat and clean condition, and free from any accumulation of rubbish. The CONTRACTOR shall dispose of all rubbish and waste materials of any nature occurring at the WORK site, and shall establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of all rubbish and surplus materials shall be off the site of construction in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.
- 1.3 **SANITATION**
- A. **Toilet Facilities:** Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets at construction job sites shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.
- B. **Sanitary and Other Organic Wastes:** The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the site in a manner satisfactory to the ENGINEER and in accordance with all laws and regulations pertaining thereto.
- 1.4 **CHEMICALS.** All chemicals used during project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer. In addition, see the requirements set forth in paragraph 6.11 of the General Conditions.
- 1.5 **CULTURAL RESOURCES**
- A. The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").
- B. The CONTRACTOR shall conform to the applicable requirements of the National Historic Preservation Act of 1966 as it relates to the preservation of cultural resources.

SECTION 01560 - TEMPORARY ENVIRONMENTAL CONTROLS

- C. In the event potential cultural resources are discovered during subsurface excavations at the site of construction, stop work immediately and notify the ENGINEER.

1.6 NOISE ORDINANCE

- A. The CONTRACTOR shall comply with the CBJ, Section 42.20.095, Noise Ordinance, paragraph (b) Construction of buildings and projects. This ordinance states that it is unlawful to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or similar heavy construction equipment, before 7:00 a.m. or after 10:00 p.m., Monday through Friday, or before 9:00 a.m. or after 10:00 p.m., Saturday and Sunday, unless a permit shall first be obtained from the City and Borough building official. Such permit shall be issued by the building official only upon a determination that such operation during hours not otherwise permitted under this section is necessary and will not result in unreasonable disturbance to surrounding residents. The CONTRACTOR may obtain the current CBJ Noise Ordinance by calling City Hall at 907 586 0270.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01570 – EROSION AND POLLUTION CONTROL

PART 1 - GENERAL

1.1 THE REQUIREMENT

- A. During construction, the CONTRACTOR shall provide erosion and pollution control necessary to protect the work site and surrounding areas from spills, discharges, and aerosol contamination of hazardous materials and pollutants and to avoid silt or other erosion-based intrusion into adjacent water bodies. All sedimentation from on-site drainage shall be caught on-site.
- B. The WORK includes items necessary to comply with State of Alaska Water Quality Regulations 18 ACC 70 and 18 AAC 70.010 through 18 AAC 70.032 and those items required to comply with Alaska Department of Environmental Conservation (ADEC) water quality certifications for the conditions of the construction permit.
- C. The WORK includes preparation of and Erosion and Pollution Control Plan and implementation of same.
- D. The WORK also includes preparation, implementation, and maintenance of a Storm Water Pollution Prevention Plan (SWPPP) that complies with National Pollutant Discharge Elimination System (NPDES) general permits for storm water discharge from construction activities as provide in the Clean Water Act, 33 USC § 1251 as amended by the Water Quality Act of 1987, PL 100.4.
 - 1. The SWPPP shall be signed by the CONTRACTOR and all subcontractors participating in the WORK. The signing of the SWPPP is required prior to commencing any work at the project site. The CONTRACTOR shall provide copies of the signed SWPPP to the ENGINEER and the ADEC.
 - 2. The CONTRACTOR shall prepare a Notice-of-Intent (NOI) for storm water discharges and deliver same to the Environmental Protection Agency (EPA). The CONTRACTOR shall provide copies of the NOI to the ENGINEER and ADEC.
- E. The CONTRACTOR shall include provisions to minimize possible spills of fuel and other petroleum products from machinery, solvents, paints, or other potentially hazardous chemicals or materials used in the WORK.
- F. The WORK under this Section includes providing all labor, materials, tools and equipment necessary to construct and maintain erosion control works; including but not limited to, silt fences, settling ponds, hay or straw bale check dams, ditches, etc.

1.2 REFERENCES

- A. State of Alaska
 - 1. Title 46 Water, Air, Energy, and Environmental Conservation
- B. State of Alaska Department of Transportation and Public Facilities (AKDOT&PF)
 - 1. SWPPP Guide Alaska Storm Water Pollution Prevention Plan Guide (SWPPP)

SECTION 01570 – EROSION AND POLLUTION CONTROL

- C. State of Alaska Department of Environmental Conservation
 - 1. 18 AAC 70 Water Quality Standards
 - 2. 18 AAC 75 Oil and Other Hazardous Substances Pollution Control
- D. U.S. National Archives and Records Administration (NARA):
 - 1. 33 USC § 1251 Clean Water Act
 - 2. 40 CFR 117 Determination of Reportable Quantities of Hazardous Substances
 - 3. 40 CFR 302 Designation, Reportable Quantities, and Notification
- E. Clean Water Act,

1.3 SUBMITTALS

- A. Ten days prior to any site work other than surveying, the Contractor shall submit an Erosion and Pollution Control Plan for acceptance. The plan shall include details for the prevention of spills, containment, cleanup, and disposal of hazardous waste material (see 40 CFR 117 and 302 for listing), including petroleum products generated by construction activities or equipment. Include a list of quantities and types of equipment and materials available onsite to be used for hazardous substance containment and cleanup. Comply with 18 AAC 75 and Title 46 of the Alaska Statutes. This plan shall, as a minimum, include the following:
 - 1. A plan for the installation of temporary erosion and sediment control measures, in accordance with the AKDOT&PF's SWPPP, including, but not limited to the following activities:
 - a. Well drilling, excavation, and embankment construction
 - b. Construction of temporary and permanent drainage features
 - c. Construction and trenching in and around water bodies and wetlands
 - d. Haul roads and material sites
 - e. Disposal of waste material
 - f. Containment, cleanup, and disposal of such substances as well as the methods to be utilized for disposing of petroleum products or other hazardous substances generated by construction equipment or activities. The plan shall also include a list of the quantities and types of materials available on site to be utilized for hazardous substance containment and cleanup activities.
- B. The CONTRACTOR shall submit a SWPPP that complies with NPDES requirements.
- C. The Contractor shall also prepare a NOI for storm water discharge associated with construction. The Contractor shall deliver copies of the NOI and SWPPP to the EPA and the ADEC. The contractor shall prepare a Notice of Termination (NOT) once final stabilization of the site has occurred and shall deliver the NOT to the EPA. Submit copies of each notice to the ENGINEER.

- 1.4 The Contractor shall be responsible for the containment, cleanup, and disposal of all construction related discharges of petroleum fuels, oil, and/or other substances hazardous to the

SECTION 01570 – EROSION AND POLLUTION CONTROL

land and water. Performance of this activity shall comply with the requirements of 18 AAC 75 and Title 46 of the Alaska Statutes.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials shall be suitable for the intended use and perform effectively to control spills and other discharge of hazardous materials and silt and surface erosion. All materials shall remain the property of the CONTRACTOR.

PART 3 - EXECUTION

3.1 GENERAL

- A. The CONTRACTOR shall install temporary erosion control structures as necessary and/or as directed by the ENGINEER. They shall be maintained in effective operating condition at all times. Settling ponds and silt fences shall be cleaned whenever they have become half-filled with drilling mud, silt, or debris and other items shall be cleaned, repaired, or replaced as necessary.
- B. Temporary erosion and pollution control structures shall remain in place until replaced by permanent erosion control WORK, or until the ENGINEER approves their removal.
- C. All temporary erosion and pollution control WORK shall be incidental to the other items in the Contract. The CONTRACTOR shall be responsible for all permits required near streams and water bodies and, therefore, shall be responsible for the quality of the run-off water from the Project site and for any fine and penalties resulting from the construction operation.

END OF SECTION

SECTION 01600 – MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.1 GENERAL

- A. The word "Products," as used herein, is defined to include purchased items for incorporation into the WORK, regardless of whether specifically purchased for project or taken from CONTRACTOR's stock of previously purchased products. The word "Materials," is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form units of work. The word "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items). Definitions in this paragraph are not intended to negate the meaning of other terms used in Contract Documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.
- B. Neither "Products" nor "Materials" nor "Equipment" includes machinery and equipment used for preparation, fabrication, conveying, and erection of the WORK.

1.2 QUALITY ASSURANCE

- A. Source Limitations: To the greatest extent possible for each unit of WORK, the CONTRACTOR shall provide products, materials, or equipment of a singular generic kind from a single source.
- B. Compatibility of Options: Where more than one choice is available as options for CONTRACTOR's selection of a product, material, or equipment, the CONTRACTOR shall select an option which is compatible with other products, materials, or equipment already selected. Compatibility is a basic general requirement of product/material selections.

1.3 PRODUCT DELIVERY/STORAGE/HANDLING

- A. The CONTRACTOR shall deliver, handle, and store products in accordance with manufacturer's written recommendations and by methods and means which will prevent damage, deterioration, and loss including theft. Delivery schedules shall be controlled to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, the CONTRACTOR shall ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss.

1.4 TRANSPORTATION AND HANDLING

- A. Products shall be transported by methods to avoid product damage and shall be delivered in undamaged condition in manufacturer's unopened containers or packaging.
- B. The CONTRACTOR shall provide equipment and personnel to handle products, materials, and equipment by methods to prevent soiling and damage.
- C. The CONTRACTOR shall provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.

SECTION 01600 – MATERIALS AND EQUIPMENT

1.5 STORAGE AND PROTECTION

- A. Products shall be stored in accordance with manufacturer's written instructions, with seals and labels intact and legible. Sensitive products shall be stored in weather-tight climate controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by manufacturer's written instructions.
- B. For exterior storage of fabricated products, they shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering; ventilation shall be provided to avoid condensation.
- C. Loose granular materials shall be stored on solid surfaces in a well-drained area and shall be prevented from mixing with foreign matter.
- D. Storage shall be arranged in a manner to provide access for maintenance and inspection. The CONTRACTOR shall periodically inspect to assure products are undamaged and are maintained under required conditions.

1.6 MAINTENANCE OF STORAGE

- A. Stored products shall be periodically inspected on a scheduled basis. The CONTRACTOR shall maintain a log of inspections and shall make said log available to the ENGINEER on request.
- B. The CONTRACTOR shall verify that storage facilities comply with manufacturer's product storage requirements.
- C. The CONTRACTOR shall verify that manufacturer-required environmental conditions are maintained continually.
- D. The CONTRACTOR shall verify that surfaces of products exposed to the elements are not adversely affected and that any weathering of finishes does not occur.
- E. For mechanical and electrical equipment, the CONTRACTOR shall provide a copy of the manufacturer's service instructions with each item and the exterior of the package shall contain notice that instructions are included.
- F. Products shall be serviced on a regularly scheduled basis, and a log of services shall be maintained and submitted as a record document prior to acceptance by the OWNER in accordance with the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01700 - PROJECT CLOSE-OUT

PART 1 – GENERAL

- 1.1 **FINAL CLEAN-UP.** The CONTRACTOR shall promptly remove from the vicinity of the completed work, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. Final acceptance of the WORK by the OWNER will be withheld until the CONTRACTOR has satisfactorily complied with the requirements for final clean-up of the project site given in Section 01704.
- 1.2 **CLOSEOUT TIMETABLE.** The CONTRACTOR shall establish dates for equipment testing, acceptance periods, and on-site instructional periods (as required under the Contract). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the OWNER, the ENGINEER, and their authorized representatives sufficient time to schedule attendance at such activities.
- 1.3 **FINAL SUBMITTALS.** The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the ENGINEER for transmittal to the OWNER:
 - A. Written guarantees, where required.
 - B. Maintenance stock items; spare parts, special tools, where required.
 - C. Completed record drawings.
 - D. Certificates of inspection and acceptance by governing agencies having jurisdiction.
 - E. Releases from all parties who are entitled to claims against the subject Project, property, or improvement pursuant to the provisions of law.
 - F. Completed Certificate of Compliance and Release for the CONTRACTOR involved in the WORK. This form is included at the end of this section.
 - G. Before final payment can be made, the CONTRACTOR shall supply a copy of the "Notice of Completion of Public Works" form approved by Wage and Hour Administration of the Labor Standards and Safety Division of the Alaska Department of Labor and Workforce Development.
 - H. Alaska Department of Labor Employment Security Tax Clearance letter for the Prime CONTRACTOR and all Subcontractors, a copy of which is located at the end of Section 00800 – Supplementary General Conditions.
 - I. Submit original Items F, G and H to Engineering Contracts Division, CBJ- Engineering.
- 1.4 **MAINTENANCE AND GUARANTEE**
 - A. The CONTRACTOR shall comply with the maintenance and guarantee requirements contained in Article 13 of the General Conditions.
 - B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work unless the CONTRACTOR shall have obtained a statement in writing from the affected private owner or public agency releasing the OWNER from further responsibility in connection with such repair or resurfacing.
 - C. The CONTRACTOR shall successfully complete the one year anniversary inspection of both the galvanic anode and impressed current sheet pile cathodic protections systems.

SECTION 01700 - PROJECT CLOSE-OUT

- D. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the OWNER. If the CONTRACTOR fails to make such repairs or replacements promptly, the OWNER reserves the right to do the WORK and the CONTRACTOR and his surety shall be liable to the OWNER for the cost thereof.
- 1.5 BOND. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Paragraph "Maintenance and Guarantee" above, and Article 13 of the General Conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

SECTION 01700 - PROJECT CLOSE-OUT

COMPLIANCE CERTIFICATE AND RELEASE FORM

PROJECT: Downtown Waterfront Corrosion Control Repairs
CONTRACT NO: E16-164

The CONTRACTOR must complete and submit this to the Contract Administrator. The CONTRACTOR shall complete this form with respect to the entire contract.

Completed forms must be submitted upon completion of the Project. All requirements and submittals must be met before final payment will be made to the CONTRACTOR.

I certify that the following and any referenced attachments are true:

- All WORK has been performed, materials supplied, and requirements met in accordance with the applicable plans, specifications, and Contract Documents.
- All suppliers and Subcontractors have been paid in full with no claims for labor, materials, or other services outstanding. If all Subcontractors and suppliers are not paid in full, please explain on a separate sheet.
- All employees have been paid not less than the current prevailing wage rates set by the State of Alaska (or U.S. Department of Labor, as applicable).
- All equal employment opportunity, certified payroll and other reports have been filed in accordance with the prime contract.
- The Contract Administrator was advised and approved of all Subcontractors before WORK was performed and has approved any substitutions, additions or deletions of Subcontractors.
- All DBE firms listed as a precondition of the prime contract award must have performed a commercially useful function in order for the work to count to a DBE goal. All DBE firms performed the WORK stated and have received at least the amount claimed for credit in the Contract Documents.
- All DBE Subcontractors must attach a signed statement of the payment amount received, the nature of WORK performed, whether any balance is outstanding, and indicate that no rebates are involved.
- If the amount paid is less than the amount originally claimed for DBE credit, the CONTRACTOR has attached approval from the Contract Administrator for underutilization.

I understand it is unlawful to misrepresent information in order to receive a payment which would otherwise be withheld if these conditions were not met. I am an authorized agent of this firm and sign this freely and voluntarily. The foregoing statements are true and apply to the following project contractor.

Firm Name Capacity: CONTRACTOR

Signed Printed Name and Title Date

Return completed form to: Engineering Contracts Division, City and Borough of Juneau, 155 South Seward Street, Juneau, AK 99801. Call (907) 586-0873 if we can be of further assistance or if you have any questions.

END OF SECTION

SECTION 01704 - FINAL CLEAN-UP AND SITE RESTORATION

PART 1 - GENERAL

1.1 DESCRIPTION.

- A. The WORK under this Section includes providing all supervision, labor, materials, tools and equipment necessary for final clean-up and restoration of all areas disturbed by construction activities, to a condition equal to, or better than, before construction started. This does not include clean-up or restoration incidental to, or directly provided for by, other construction items.

PART 2 - PRODUCTS

2.1 MATERIALS.

- A. Any materials required shall conform to the appropriate Section of these Specifications.

PART 3 - EXECUTION

3.1 CONSTRUCTION.

- A. The CONTRACTOR shall clean up all sites disturbed during construction of the project. This includes removal of all construction equipment, disposal of all excess materials, disposal of all rubbish and debris, removal of all temporary structures, and grading of the sites so that no standing water is evident.

END OF SECTION

SECTION 02455 – PILE WRAP AND JACKETING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Overview:

1. This Section specifies the minimum requirements for providing corrosion protection by the installation of Pile Wrap and Jacketing System as shown on the Drawings and as described in this Section.
2. The WORK includes all labor, materials, tools, and equipment necessary to provide proper surface preparation of the H-piles and installation of the Pile Wrap and Jacketing Systems.

B. General Requirements:

1. The following items are included in the WORK:
 - a. Providing scaffolding, temporary floating platforms, or other means to access the WORK.
 - b. Surface preparation including containment.
 - c. Third party inspection of the prepared surface
 - d. Application of the primer.
 - e. Installation of the petrolatum tape on the flange edges
 - f. Installation of the reticulated foam web inserts.
 - g. Overwrap with petrolatum marine tape
 - h. Installation of outer jacket.
2. The work includes providing the necessary labor, materials, and documentation necessary to meet the minimum requirements described in specifications, drawings, and referenced supplements for a complete installation.
3. The work includes providing all required, consequential, and incidental labor, equipment, and materials necessary for a complete installation, including but not limited to procurement of materials, testing, fabrication, inspection, assembly, delivery, handling, and storage. This work includes associated administrative tasks as required.
4. The following information describes the requirements associated with Pile Wrap and Jacketing System work as a part of this Project but not described in other sections of the specifications.
5. The work includes all work associated with this specification and Related Work sections.
6. The CONTRACTOR shall review the material and installation requirements and verify that they meet or exceed minimum project requirements.
7. CONTRACTOR shall provide a third party Coating Inspector(s) who holds a current certification as a NACE Level 3 Coating Inspector.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Division 1 Sections, apply to this Section.
- B. Section 01330 – Contractor Submittals
- C. Section 01350 – Health and Safety
- D. Section 01400 – Quality Control

SECTION 02455 – PILE WRAP AND JACKETING

- E. Section 01570 – Erosion and Pollution Control
- F. Section 01600 – Materials and Equipment
- G. Section 01700 – Project Closeout
- H. Section 09960 – Marine Coatings

1.3 REFERENCES

- A. Standards, Specifications, Recommended Practices, and listed herein are part of this Section to the extent referenced.
- B. The Society for Protective Coatings (SSPC):
 - 1. SSPC Guide 6, Guide for Containing Surface Preparation Debris
 - 2. SSPC SP2, Hand Tool Cleaning
 - 3. SSPC SP3, Power Tool Cleaning
- C. Product Specification References:
 - 1. For H-pile applications: Denso SeaShield Series 2000HD manufacturer's recommendations and instructions
 - 2. For H-pile areas with gussets and cross member intersections:
 - a. Denso Paste S105
 - b. Denso Profiling Mastic and/or Foam Blocks wrapped with Densyl Tape
 - c. Densyl Tape (4" or 6" width)
 - d. Denso Glass Outerwrap UV Gray (4" or 8" width)
 - 3. Approved "or equal" manufacturer specifications for H-pile application and irregular gusset areas.
 - 4. If there is a difference between the manufacturer's specification and this Section, the most stringent provision shall apply.

1.4 DEFINITIONS

- A. The terms, "surface preparation," "steel preparation," "preparation work," "prep," "cleaning," and other similar variations of these terms used in the context of Pile Wrap and Jacketing System work generally refer to the steps necessary to prepare a surface for the first application of coating, and include foreign material removal, cleaning, and other preparatory work as described below.
- B. The terms, "pile wrap," "pile jacket," "jacket," "wrap," and other similar variations of these terms used in the context of Pile Wrap and Jacketing system work generally refer to the work outlined within this Section.

1.5 JOB CONDITIONS

- A. Job conditions and requirements are as described by the provisions of the Contract, this specification section, General and Supplementary Terms and Conditions, Governing Specifications, Codes, and Standards, and applicable Related Work sections.

SECTION 02455 – PILE WRAP AND JACKETING

- B. Surface preparation for and installation of the pile jackets will require containment as much of that work will be over or adjacent to water in an area with large tide variations.
- C. WORK AREAS WILL BECOME FLOODED AT HIGHER TIDES
- D. The WORK will take place in an active port facility and require the following:
 - 1. Work over water requires the use of a personal flotation device (PFD)
 - 2. Work on scaffolding requires the use of harnesses and life lines, and all scaffold workers must be trained in fall protection.
 - 3. Although the WORK is schedule to occur off-season, construction work may be temporarily halted on short notice due the arrival or departure of vessels. Close coordination with CBJ Dock and Harbors is required.

1.6 QUALITY CONTROL

- A. CONTRACTOR's work shall meet the requirements of Section 01400 – Quality Control.
- B. Regulatory Requirements
 - 1. In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word "shall" had been substituted for "should" wherever it appears.
 - 2. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the OWNER or their designated representative.
- C. Standard Products
 - 1. Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship.
 - 2. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.
 - 3. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in this section.

1.3 SERVICES OF MANUFACTURER'S REPRESENTATIVE

- A. CONTRACTOR shall arrange for a representative of the manufacturer to be on-site during initial installation of pile jacketing and pile wrapping to ensure proper methods, procedures and processes are being followed by the CONTRACTOR.

1.4 SUBMITTALS

- A. General
 - 1. Submit the following information in addition to and in accordance with the provisions of this Contract, requirements of this section, Section 01330 – Submittals, General and Supplementary Terms and Conditions, Governing Specifications, Codes, and Standards, and applicable Related Work sections.

SECTION 02455 – PILE WRAP AND JACKETING

2. Acceptance of any submittal by the ENGINEER does not relieve the CONTRACTOR of the sole responsibility for completing work as defined in contract documents using acceptable materials and procedures.
3. The omission of components, quantities, or properties in submittals may result in the rejection of the submittal.
4. Each of the following submittals shall be submitted to and approved by the ENGINEER prior to mobilization. Orders placed prior to ENGINEER approval are completed at the sole risk of the CONTRACTOR, and may result in rejected material. Rejected material must be replaced at no cost to the OWNER.

B. Qualifications

1. Provide information on previous pile jacketing installation projects of similar scope, performed by the CONTRACTOR within the past 5 years. Include contact information for individuals who are Owner representatives that can verify quality of previous work/projects.

C. Work Plan

1. Provide work plan for installation of pile jacket systems and pile wrapping. Plan shall address sequence, means and methods, and equipment for pile preparation and installation of complete pile jacketing and pile wrapping systems (each type).

D. Cleaning and Surface Preparation Procedures and Materials

1. Standard materials and procedures to be used by the CONTRACTOR as required by these specifications and the manufacturer's recommendations for SSPC-SP2 or SSPC-SP3 surface preparation requirements

E. Manufacturer's Data

1. Certifications and product data sheets for all materials to be included or utilized in the installation of the Pile Wrap and Jacketing System.
2. Data Sheets & Instructions
 - a. Detailed product material specifications
 - b. Installation requirements shall be submitted to the ENGINEER for approval and must include the following plus any other information necessary for a complete installation:
 - i. Surface preparation requirements
 - ii. Mastic application and curing requirements
 - iii. Petrolatum tape top, bottom, overlap, and splice details, as applicable
 - iv. Maximum allowable time between the installation of mastic/petrolatum tape/protective cover
 - v. Cover installation guidelines, including connection configuration and tightening requirements
 - vi. Cutting requirements for post-installation cover
 - c. Material movement, transport, and storage requirements
 - d. Typical/routine maintenance requirements
 - e. Limitations of use and applicability

SECTION 02455 – PILE WRAP AND JACKETING

- f. Criteria by which the Pile Wrap and Jacketing System installation is evaluated, including test procedures, success/failure qualifications, and suggested time period between tests.
 - 3. Manufacturer Oversight and Training
 - a. Training attendance sign-in sheet
 - b. Confirmation of manufacturer's observation and successful installation containing plan locations, elevations, date/time of installation, photographs, and any other information necessary to document a correct installation.
 - i. This report shall be submitted within 48 hours of installing the first Pile Wrap Protection System elements.
 - ii. Additionally, reflect the above information with respect to locations on as-built drawings or as an attachment to as-built drawings.
- F. Personnel Certifications
- 1. Labor Certifications
 - a. Surface preparation crew qualifications/certifications.
 - b. Installer qualifications/certifications.
 - c. Cleaning crew qualifications/certifications
 - 2. Diver Certifications
 - a. Project reference list, including the name and location of the project, references with contact information, number of pile locations protected, range of typical elevations required, and size of piles.
 - b. Proof of Insurance
 - c. Diver qualifications and skills competency of the proposed dive crew members including the following:
 - i. Association of Diving Contractors International (ADCI) card equal or greater than the position in which they are assigned
 - ii. Current American Red Cross First Aid and CPR Cards
 - iii. AWS D3.6M:2010 welding certification or equivalent if underwater welding is performed
 - d. Supervisor qualifications, including proof of 5 years in a supervisory role.
- G. Diving Services Deployment Plan
- 1. Work Procedures
 - 2. Schedule
 - 3. Suitable Weather Criteria
 - 4. Communication Plan
 - 5. Safety Plan
 - a. Emergency Response Plan
 - b. Local specialty medical providers

SECTION 02455 – PILE WRAP AND JACKETING

H. Delivery, Storage, and Protection

1. Deliver materials in original packages, containers, boxes, or crates bearing the name of the manufacturer, brand, and model. Store all materials and equipment delivered to the construction site to prevent any damage or deterioration resulting from exposure to weather conditions or other potential hazards. Exercise particular care to avoid damaging materials throughout all lifting or handling operations.

I. Shop Drawings

1. CONTRACTOR shall submit shop drawings defining the completed structure, connection details, any unique interface conditions, and general seam arrangement for review and approval by the ENGINEER. Shop drawings shall confirm the general arrangement shown on the Project Drawings and specifically include:
 - a. Elements in shop drawings shall be shown with respect to grid or bent locations as shown on Contract Documents.
 - b. The drawings shall show the proposed construction in detail.
 - c. Shop drawings shall be approved by the ENGINEER prior to the procurement of materials, fabrication of custom construction materials or other preparatory work.
 - d. Top and bottom elevations relative to project datum of each outer jacket to be installed.
 - e. Details and locations of typical longitudinal and transverse joints in the jackets, including a description of the joint sealing method(s).
 - f. Details of fixed and/or adjustable standoffs and their location on the jackets.
 - g. Detail of typical jacket bottom seal.

J. Inspection and Testing

1. Inspection results indicating that the manufacturer's performance criteria have been satisfied at each location.
2. Dive Inspection Recordings
 - a. A video of each pile jacket installation from its lowest elevation to the top shall be provided.
 - b. All videos shall include audio descriptions or video subtitles that clearly and accurately describe the location of each pile jacket installation.
3. A written record detailing activities in accordance with this Section and Section 01400 – Quality Control as applicable.
4. Non-conformities shall be submitted to the ENGINEER.

K. As-Built Drawings

1. As-built drawings shall be submitted immediately after completion of installation showing the following items. Elevations may be measured using as-built drawings as a benchmark.
 - a. Type of Pile Wrap and Jacketing System
 - b. Type of Coating System
 - c. Top of jacket elevation
 - d. Bottom of jacket elevation

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e. Manufacturer-observed installation locations

L. Certificate of Compliance

1. CONTRACTOR shall submit a letter stating that the submitted manufacturer certifications and test reports have been reviewed, and that the materials being furnished for the project are in conformance with the applicable standards, specifications, and project documents.

M. Warranty

1. 10-year material warranty guaranteeing that the system will provide corrosion protection to all fully-encapsulated piles.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. CONTRACTOR shall comply with all written recommendations of the manufacturer regarding installation of the specified system.
- B. The CONTRACTOR shall provide all shipping, handling, and storage required to produce the materials, on-site, prior to installation.
- C. Approval of alternate products will be granted subject to the ability of the equivalent product to meet or exceed the minimum characteristics of the identified products with respect to abrasion resistance, case history, corrosion resistance, environmental toxicity, environmental resistance, service life, UV-resistance, temperature resistance, wear profile, serviceability, warranty, and other criteria necessary to demonstrate a quality and equivalent product. The CONTRACTOR shall provide all the documentation required for review by the ENGINEER.

2.2 SUBSTITUTIONS

- A. Requests for substitution shall include complete description of the product, manufacturer's catalog cuts, and evidence of satisfactory past performance.
- B. A request constitutes a representation that the CONTRACTOR:
 1. Has investigated the proposed product and determined that it meets or exceeds the quality and extended performance level of the specified product.
 2. Will provide the same or better warranty for the Substitution as for the specified product.
 3. Will coordinate Substitution installation and make necessary changes which may be required for the Work to be successfully completed with no additional cost to the OWNER.
 4. Waives claims for extra costs or time extension, which may subsequently become apparent.
 5. Will reimburse the OWNER for review or redesign services associated with re-approval by the ENGINEER.
- C. Include the name and contact information of the owner of the property where the product was used successfully.

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- D. Substitutions will not be considered when they are indicated or implied on Shop Drawings or product data Submittals without a separate written request for consideration of the Substitution or when acceptance will require revision to the Contract Documents.

2.3 MATERIALS

A. General

1. All materials shall meet or exceed the minimum requirements listed by the manufacturer's current specifications at the time of bid.
2. The Pile Wrap and Jacketing System shall be fashioned to the length, flange, web, and end conditions at each location to the installation requirements described in plans and specifications.
3. All components of the Pile Wrap and Jacketing System shall be supplied or warranted by a single manufacturer. Combining proprietary products from multiple companies will not be allowed.
4. Materials specified herein shall not preclude the use of equivalent materials. Equivalent materials shall be submitted to ENGINEER for consideration at least ten (10) working days prior to the Date of Bids.
 - a. Requests for substitution shall include evidence of satisfactory past performance in a similar application and environment, and include the name and contact information of the owner of the property where the Pile Wrap and Jacketing System was used successfully.
 - b. Substitutions will not be considered if they do not contain an outer jacket that has a proven successful performance record of a minimum of 5-years.
 - c. The CONTRACTOR shall state in their bid the amount of deduct to use equivalent materials to those specified.

- B. Specified materials shall be any of the following identified products or equivalent as approved by the ENGINEER:

1. Pile Jacket System

- a. SeaShield Series 2000HD System: Denso North America, Houston, TX.

2. Pile Wrap System

- a. Denso Glass Outerwrap UV System: Denso North America, Houston, TX.

3. The systems will be sized for 12HP53 and 14HP73 piles at various locations, as shown on the Drawings.
4. CONTRACTOR shall confirm sizes prior to ordering materials including variation in existing geometry, the presence of modifications to flange geometry, and modification(s) to the jackets to make allowance for haunches present at the top of some H-piles where they are welded to steel pile cap anchor plates.

C. Primer/Paste

1. Primer shall be non-toxic and comprised of saturated petroleum hydrocarbons (petrolatum), inert fillers and passivating agents.

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2. The paste is used to displace moisture, passivate surface oxides ~~and~~, and fill and profile surface imperfections.

D. Mastics

1. The mastics used within the jackets and pile wrap shall be as recommended by the manufacturer and be comprised of saturated petroleum hydrocarbons (petrolatum), inert fillers, reinforcing fibers and thermal extenders. Variations may contain beads of cellular polymer and flow control additives.
2. If non-haunch steel elements are encountered that cannot be removed, contact the ENGINEER for direction on coating/wrapping.
3. Mastics shall be industrial grade, designed for use in the marine environment.
4. Mastics shall be cold applied and self-supporting for molding around irregular shapes.
5. Petrolatum mastics shall provide a suitable profile for applying the petrolatum tape.

E. Marine Tape

1. The tape shall be comprised of a non-woven synthetic fabric carrier, fully-impregnated and coated with a neutral petrolatum-based compound with inert siliceous fillers and corrosion inhibitors.
2. Tape shall be nontoxic and have a character stable in composition and plasticity over a wide temperature range.
3. The tape shall be non-hardening and non-cracking with the ability to accommodate vibration and extreme movement of substrate.
4. Tape shall be highly resistant to mineral acids and alkalis

F. Pile Jackets

1. The jackets shall be comprised of High Density Polyethylene (HDPE) or multi-layer urethane coated reinforced polyester composite material. It shall be new, seamless virgin material. Use of reprocessed resin is prohibited.
 - a. HDPE outer jacket shall be at least 80 mils thick to prevent damage to the underlying tape.
 - b. Reinforced polyester composite material shall be at least 30 mils thick to prevent damage to the underlying tape.
2. The sheet shall be uniform throughout, free from dirt, oil and other foreign matter and free from cracks, creases, wrinkles, bubbles, pin-holes and any other defects that may affect its service.
3. Jackets shall be equipped with a 'flange' type of connection as opposed to a 'hoop' type of connection.
4. The jackets shall be UV-resistant
5. The jackets shall be black

G. H-Pile Web Area Foam Filler

1. The foam filler shall be fabricated from open cell reticulated foam.
2. The sectional geometry of the foam filler shall be such to fill the web area of the H-pile so that the foam filler and H-pile flanges form a rectangle.

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H. Closure Systems / Fasteners

1. SeaShield Series 2000HD Jackets

- a. Fasteners shall be comprised of M10 x 150 mm Bolt, 316 s31 Marine Grade Stainless Steel.
- b. M10 Nyloc Nut, 316 s31 Marine Grade Stainless Steel.
- c. M10 Penny Washer O.D. 35 mm x 1.5 mm thick, 316 s31 Marine Grade Stainless Steel for every nut and bolt there are two washers.
- d. Torque Specification up to 40 to 80 in. lb. A torque wrench capable of reading a minimum of 25 in. lb. is required.
- e. Space between bolts minimum 300 mm or 12". Note: A thin coat of anti-seize compound shall be applied to each bolt prior to tightening to prevent possible galling.

2.4 FABRICATION

A. Pile Jacket

1. Pile jackets shall be custom fabricated to meet the installation requirements in the contract documents.
2. Pile jackets shall be custom fabricated to meet manufacturer tolerances at each pile location. H-pile dimensions vary by location.

B. Pile Wrap

1. The pile wraps shall employ petrolatum impregnated tape applied over properly primed and profiled steel surfaces.
2. The pile wraps shall be protected by a UV stabilized fiberglass cloth impregnated with a water activated aliphatic polyurethane resin.

2.5 PRODUCT HANDLING

- A. All materials shall be protected during shipping and handling.
- B. Materials shall be stored above ground on pallets, platforms or other supports, and be protected from excessive exposure to moisture prior to fabrication/use.
- C. Materials shall be stored and staged out of direct sunlight at temperatures similar to site conditions, and with dunnage, as needed, to reduce the chance of warping.

PART 3 - EXECUTION

3.1 PROJECT NOTES

A. Site Verification of Conditions

1. CONTRACTOR shall examine areas and conditions under which installation/application of jackets shall be performed for conditions that will adversely affect execution, performance, or quality of the installation including, but not limited to:
 - a. Obstacles to be removed prior to installation
 - ii. Existing temporary scaffolding, formwork, or nails
 - iii. Existing bars or other steel items welded or otherwise fastened to the H-piles

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- iv. Non-dock supporting timber piles
 - v. Prior to removal, provide the ENGINEER with photographs and locations of all items the Contractor seeks to remove to allow proper installation of the materials or for the Contractor's convenience.
 - vi. Removal of obstacles is considered incidental to the installation of the Pile Wrap and Jacketing and is not a separate pay item.
 - b. Areas to receive Pile Wrap System
 - ii. Haunches at the top of eight piles where H-piles connect to steel anchor plates
 - iii. Intersection of cross braces
 - iv. Where cross braces intersect vertical H-piles
 - 2. The CONTRACTOR shall protect existing galvanic anode cathodic protect (GACP) cables. If necessary, the contractor shall modify the foam inserts to provide an allowance for existing GACP cables and bonds and ensure proper closure of the jacket outer cover.
 - 3. The CONTRACTOR shall immediately notify the Owner's Representative of any conditions that will incur delays in the Work or that cannot be corrected absent a change in the Bid Amount.
- B. Proximity to Public
- 1. Work is to be completed in close proximity to public spaces including a park, tourist bus parking area, public parking garage, public library, and cruise ship berths. At these locations, an increased sensitivity to noise, smells, material containment, and other stimuli common to the Work is anticipated. CONTRACTOR shall employ best management practices to minimize unnecessary effects in public spaces.
 - a. Coating applied to surfaces outside the scope of this contract shall be removed, repaired, or otherwise remedied at no cost to the OWNER.
 - b. Localized containment and other assurances may be required at work areas in close proximity to vehicles, buildings, public or OWNER personnel, and other objects to prevent air- or waterborne transmission of foreign materials and debris.
- C. Maritime and other Commercial Operations
- 1. Maritime and other commercial operations will be ongoing. At times, these operations will restrict site availability for work. Schedules will be published with as much advance notice is possible, but unannounced variations from schedule should be anticipated and accounted for to the extent possible. Close coordination of construction activities with CBJ Docks and Harbors shall be required.
- D. CONTRACTOR shall comply with all written recommendations of the manufacturer regarding application of the specified system.
- E. At times, it may be the CONTRACTOR's preference to install the Pile Wrap and Jacketing System to exceed the minimum installation requirements (i.e. elevations and gap dimensions) as designated on drawings.
- 1. Unless specifically instructed by the OWNER's REPRESENTATIVE or ENGINEER to do so, any installation in excess of that shown on the Drawings at the CONTRACTOR's initiative, shall be conducted at no additional cost to the OWNER.

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- F. Existing H-pile elements and bracing at the site were initially covered with an epoxy coating; the condition of the coating varies considerably from location to location.

3.2 REMOVAL OF OBSTACLES

- A. Remove identified obstacles, and dispose of same in accordance with the ENGINEER approved disposal plan.

3.3 INSTALLATION GENERAL

- A. All SeaShield pile wrap and jacketing systems specified above shall be installed in strict accordance with the manufacturer's recommendations regarding surface preparation and installation of the specified system, and as shown on the Drawings.

3.4 SURFACE PREPARATION

A. General

1. The entire surface of each pile, cross member, and gusset to be jacketed shall be thoroughly cleaned to remove all marine growth, loose rust and paint, and other foreign matter for the entire length to be covered by the Pile Wrap and Jacketing System.
2. The cleaning does not require the removal of surface growths from cavities or other indentations that do not come in contact with the system; but does require removal of all surface projections such as:
 - a. Bolts, welded projections, weld splatter, fouling organisms, and other surface conditions such as sharp points or edges that would either penetrate the module or cause undue deformation.
3. It shall not be necessary to remove surface bumps or other similar unevenness, provided these are smooth, as the material has sufficient elasticity to pass over these surface defects without interfering with the snugness of the overall length.
4. Remove marine growth, loose rust, paint, and foreign matter by hand and /or power tools cleaning in accordance with SSPC-SP-2, or SP-3, "Hand Tool Cleaning" or "Power Tool Cleaning" respectively.
5. A hydraulic whirl away or high pressure water blaster may be used to prepare the surface provided the prepared surface meets the approval of the Manufacturer's Technical Representative.

B. Approval of Surface Preparation

1. Obtain the Manufacturer's Technical Representative written approval that the surface preparation is adequate.
 - a. Include photographs that clearly illustrate what is adequate and inadequate surface preparation.
 - b. Provide the OWNER's REPRESENTATIVE and OWNER's inspector with an electronic copy of the manufacturer's written approval.
2. Prior to installation of any primer/paste hold an on-site meeting including the Manufacturer's Technical Representative and the OWNER's REPRESENTATIVE.

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- a. The purpose of this meeting is to ensure that representatives of the CONTRACTOR, manufacturer, and OWNER are in full agreement as to what surface conditions are required immediately prior to application of the primer/paste.

3.5 PILE JACKET INSTALLATION

A. Primer/Paste

1. Do not install any Denso S105 primer/paste until after the surface preparation meeting described above.
2. Apply Denso S105 paste by hand, brush, glove, rag or roller.
3. Apply a thin uniform film over the entire surface to be wrapped with petrolatum tape.
4. A liberal coating shall be applied at cavities, voids, shoulders and other irregularities.
5. The Denso S105 primer/paste shall be stored in accordance with the manufacturer's requirements.
6. Special requirements may apply for underwater application.

B. Mastics

1. To protect complex surfaces and sharp intersections, apply Denso Mastic by filling and packing to achieve a smooth uniform contour to which tape can be applied without bridging or voids.
2. Use mastic to fill cavities and smooth welds, sharp intersections, and other discontinuities at pile/pile cap interfaces.
3. Apply mastic to voids over 1/16" deep. (Could be increased to 1/8" deep)
4. Denso Mastic shall be stored in accordance with the manufacturer's requirements until immediately prior to use.

C. Flange Tape

1. As shown in the Drawings, apply Denso Tape to all flange edges for the full length of the installation to provide protection to the overwrap.
2. The Denso Tape shall be stored in accordance with the manufacturer's requirements until immediately prior to use.

D. Web Area Foam Blocks

1. If inner petrolatum mats are required:
 - a. Remove the white release liners from one side of the inner petrolatum mats.
 - b. Position the two petrolatum mats on the H pile starting from the outer flange area and form it into the center of the web area, overlapping the two in the center of the web.
2. Insert the foam block between each flange, aligning the top of the block with the top of the primed area/inner mat, and pushing the foam block tight against the web.

E. Marine Tape Overwrap

1. Application shall proceed at the designated low point of the area and proceed upward to the high point creating a weatherboard effect.
2. Hold end of the tape firmly against the starting point and firmly press on the surface. Unroll the tape, keeping the roll close to the surface. Do not get a long lead of tape as it will tend to fold and gap on the surface being wrapped.

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3. Apply sufficient tension to provide continuous adhesion, but do not stretch the tape. As application proceeds, press out all folds and air pockets that may occur.
4. Trapped air pockets, folds, and other discontinuities must be removed before installing pile jacket.
5. At the completion of each roll, smooth the overlaps by hand in the direction of the spiral to insure sealing of the overlap.
6. Tolerances
 - a. The marine tape shall be spirally wrapped onto pile using a 55% overlap, which will provide a double thickness of tape throughout.
 - b. Maintain a minimum 6" overlap when overlapping one roll with the end of a new roll.
 - c. Tape shall not be installed to extend past the pile jacket more than the lesser of 9" or 50% of the tape width.
7. Schedule
 - a. Tape shall be installed within 24 hours of surface preparation.
 - b. Once installed, marine tape must be covered by pile jacket as soon as possible or as directed by the manufacturer.
8. The tape shall be stored in accordance with the manufacturer's requirements until immediately prior to use.

F. Pile Jacket

1. General
 - a. Locate the pile jacket between the elevations indicated in the Drawings.
 - b. Place the pile jacket tightly around the pile and align the holes and fastener bars.
 - c. Secure in place in accordance with manufacturer recommendations.
2. Joints
 - a. For each pile the extreme top terminus shall be the pile-concrete interface.
 - b. Intermediate joints shall be aligned to be perpendicular to the longitudinal axis of the pile.
 - c. The extreme bottom terminus shall be aligned to be perpendicular to the longitudinal axis of the pile and at the elevation indicated in the Drawings.
 - d. Press adjacent sections as closely as possible, overlapping as required by the manufacturer.
 - e. The joint interface between two butting sections shall be smooth and free of jagged edges.
 - f. Joints shall be plumb to 4:100 of pile longitudinal axis or true level as required by location.
 - g. No joints shall be permitted between elevation +13' and +17' (MLLW=0).
3. Length
 - a. Jackets shall be no less than 4'-0" unless approved by the ENGINEER.
 - b. Jackets shall be no more than 8'-0" unless approved by the ENGINEER.

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- c. No more than (4) sections of pile jacket may be used at any vertical pile or cross brace.
 - d. No joints shall exist within 4' of the pile connection interface.
- 4. Fitting
 - a. A combination of shop and field fitting is likely required to meet installation tolerances.
 - b. Operations necessary to meet installation tolerances described in contract documents shall be completed at no cost to the OWNER.
 - c. Where field cuts are necessary, contractor shall provide templates, grinders, and other means and methods necessary to provide fine adjustments.
 - d. Field cuts shall be smooth and flush, with variations less than 1" longitudinally per transverse foot.
 - e. Field cuts shall be within 2% of plumb when measured from true level or the pile longitudinal axis.
- 5. Schedule
 - a. Pile jacket shall be installed within 48 hours of marine tape installation or as directed by the manufacturer.
- G. Fasteners
 - 1. A washer shall be placed at nut and bolt head each.
 - 2. Manufacturer torque specifications shall apply.
 - a. For installation, torque wrench capable of reading a minimum of 25 in. lb. is required.
 - 3. A thin coat of anti-seize compound shall be applied to bolts prior to tightening to prevent possible galling.
 - 4. Using the specified nuts, bolts, and washers, tighten and secure the pile wrap to the manufacturer's required torque specification.
- H. Obstructions
 - 1. Riprap, permanently connected steel structures (except H-pile cross braces), welded anodes, drift wood, and other objects may be designated as an obstruction if they prohibit the installation of the wrap system to the elevations shown in plans.
 - 2. Boulders and other debris in the immediate vicinity of steel piling that render the installation impossible shall be considered obstructions only where the individual debris element weighs over 500 lb.
 - 3. Obstructions shall be considered field conditions, and may or may not be identified in plans. No additional payment shall be issued due to deviations necessary to complete a wrap system installation at obstructed locations.
 - 4. Except as noted above, the fill line and/or mudline is not considered an obstruction or obstacle.

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I. Lower Elevations Below Local Grade

1. Where the Pile Wrap and Jacketing Systems are shown in the Drawings to intersect the fill line and/or mudline, the fill or soil will need to be removed as necessary to allow installation of the Pile Wrap and Jacketing System to an elevation at least 2.5 ft. below the existing grade.
2. After installing the Pile Wrap and Jacketing Systems, the CONTRACTOR shall backfill the excavation returning the surface adjacent to the jacket to a grade flush with adjacent areas.

3.6 IRREGULAR GUSSET AREAS AND CROSS MEMBER INTERSECTIONS.

A. As shown in the drawings, pile wraps are to be employed at the following locations:

1. The tops of select Bus Parkover piles where haunches are present.
2. Where Bus Parkover cross braces intersect each other or vertical H-piles.

B. Priming

1. The primer shall be hand applied using a soft glove, to the cleaned metal and existing coating leaving a thin film over the entire surface.
2. A liberal coating shall be applied at cavities, voids, shoulders and other irregularities.
3. In cold weather, the paste shall be stored at a temperature $>50^{\circ}\text{F}$ until immediately prior to use.

C. Profiling/Filler

1. The gusset areas at the tops of the H-Piles and the intersections/node areas of the cross members shall be profiled and/or filled as needed to provide a rectangular and/or symmetrical finish around the beams prior to wrapping with the Densyl Tape.
2. Profiling mastic can be packed and molded into all cavities, voids, shoulders and other irregularities (the foam blocks as used with pile jacket system may also be utilized with custom cutting and wrapping with tape).
3. The profiling mastic shall be stored in accordance with the manufacturer's requirements until immediately prior to use.

D. Inner Wrapping

1. The Densyl Tape shall be spirally wrapped over the prepared and primed metal surface. In cold weather, the Densyl Tape shall be kept in warm storage until immediately prior to use.
2. The tape overlap shall be 55%, which will provide a double thickness of tape throughout.
3. All overlaps shall be pressed out to ensure proper sealing.
4. In cold weather, the Densyl Tape shall be kept in warm storage until immediately prior to use.

E. Outer Wrapping

1. Denso Glass Outerwrap UV shall be spirally wrapped over the entire coated area.
2. Temperate water is used to activate the resin in the Denso Glass Outerwrap UV. In cold weather, a methyl alcohol (Winter Windshield Washer Fluid) solution can be used. The Denso Glass Outerwrap UV can be soaked in a water and/or methyl alcohol solution to activate the resin for 30 seconds prior to application.

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3. The minimum Denso Glass Outerwrap UV coverage shall be a 50% overlap. This will provide a double-layer thickness throughout the overall coated area. Additional layers will provide additional mechanical protection.
4. Denso Glass Outerwrap UV will be considered cured when the resin in the Glass Outerwrap has cured to the degree that it provides adhesion between the layers of itself and is firm enough not to be affected by mechanical abrasion (approx. 30 minutes at 75F).

3.7 QUALITY ASSURANCE

A. Manufacturer's Observation, Training, and Inspection

1. On-site training is required for submerged and non-submerged Pile Wrap and Jacketing System sections prior to installation.
2. Training shall be arranged by the CONTRACTOR and administered on-site by a material manufacturer representative and attended by the personnel responsible for the installation, including all diving service providers. All foremen, superintendents, project managers, and other managerial staff must be in attendance. Attendance sheets shall be submitted to the OWNER.
3. Compensation, availability, and other logistical arrangements shall be determined and mutually agreed upon by the CONTRACTOR and material supplier prior to shipment of materials. Training and observation dates and times must be approved by the OWNER.
 - a. OWNER's REPRESENTATIVE must be present for the training. The training shall be scheduled with as much advance notice as possible, 72 hours minimum.
4. Manufacturer's representative must be present to provide training and observe and approve the installation of pile wrap protection system at two (2) locations at each facility. The representative shall observe the complete installation, including final surface preparatory measures.
 - a. These locations shall be photographed and otherwise documented to serve as a benchmark with which future surface preparation and pile wrap systems will be evaluated.
 - i. Photographs and other documents shall be reproduced and distributed to the OWNER's REPRESENTATIVE and the CONTRACTOR.
 - b. These locations shall be considered a benchmark by which the manufacturer material warranty is measured. Manufacturer shall identify and submit allowable routine maintenance requirements to sustain a working system as a warranty condition.
 - c. Manufacturer-approved locations shall be clearly identified by a permanent weather/water-proof and UV-resistant tag, noting the manufacturer representative's name and date of inspection.
 - d. Locations shall be identified by the OWNER's REPRESENTATIVE and coordinated with the CONTRACTOR.
 - e. Manufacturer may note deficiencies in surface preparation, installation, and other means and methods. Work deficiencies shall be reported to the CONTRACTOR and ENGINEER.

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5. After manufacturer observation and training, the compliance of the installation with manufacturer specifications and benchmarks are subject to the opinion of the ENGINEER.

B. Diver Services

1. Diving may be required. Diving services required to complete the installation per contract documents shall be provided by the CONTRACTOR at no additional cost to the OWNER.
2. Divers shall produce a Diving Services Deployment Plan a minimum of 2 business days in advance of diving.
3. Surface dive crew shall maintain 2-way voice communication capabilities with divers at all times.
4. Where diving services is utilized to install Pile Wrap and Jacketing System, diving services shall provide an underwater camera with lighting apparatus, DVD format video recorder, and a color monitor suitable for on-site, real-time viewing.
 - a. Inspections shall be conducted in real-time and recorded. Submit the video recordings of all dive inspections clearly marked with location, date, and time.

C. Inspection Milestones

1. The OWNER shall be given the opportunity to inspect each Pile Wrap and Jacketing System at the following milestones. OWNER's inspectors shall be given 48 hours of advanced notice at a minimum:
 - a. Pre-Work Condition
 - b. Surface Preparation and Completion of Surface Preparation
 - c. Application and Completion of Tape Application
 - d. Application and Tensioning of Pile Wrap

D. Deficiency Corrective Measures

1. If a task, process, product, or other part of the project installation does not meet the standards described in or referenced by these specifications, the OWNER's inspector may choose to issue a notification of deficiency.
2. Upon notification of a deficiency in installation by the manufacturer or required by OWNER inspector, the CONTRACTOR shall submit a corrective action plan to the ENGINEER for approval within 48 hours.
 - a. The corrective action plan should be generated from the manufacturer, and supplemented with CONTRACTOR's precautionary measures to ensure that the deficiency will not repeat.
3. Until the corrective action plan is approved, no work shall proceed involving the deficient task, process, product, or other part of the installation process. Delays caused by deficient tasks shall be corrected at no cost to the OWNER.
4. Work completed but deemed deficient by the manufacturer shall be removed and replaced with compliant work.

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E. Disputes

1. Where compliance with manufacturer specification and benchmark is disputed and deemed unresolvable, the OWNER and the CONTRACTOR shall provide a position memo describing their respective perspectives.
2. The judgment of the manufacturer representative shall be documented by memo and photographs, distributed to the OWNER and the CONTRACTOR, and serve as a resolution.
3. The CONTRACTOR shall arrange up to (2) evaluations/resolutions by the manufacturer representative at no cost to the OWNER, independent of the manufacturer resolution.

F. Performance Evaluation

1. CONTRACTOR shall implement an inspection program, confirming that manufacturer performance evaluation criteria have been satisfied at each location.

END OF SECTION

SECTION 13112 – SHEET PILE GALVANIC ANODE CATHODIC PROTECTION

PART 1 – GENERAL

1.1 SUMMARY

A. Description of the Work:

1. This Section specifies minimum requirements for providing a Galvanic Cathodic Protection (GACP) system for the Marine Park seawall, as shown on the Drawings and as described in this Section.
2. The Work includes all labor, materials, tools, and equipment necessary for the installation of two galvanic anode sleds to protect the seaward face of the Marine Park sheet pile wall.

B. General Requirements:

1. The following items are included in the Work:
 - a. Providing scaffolding, temporary floating platforms, or other means to access the Work.
 - b. Surface preparation including providing necessary containment for surface preparation required for arc and exothermic welding.
 - c. Removal of existing anode sled conduit and junction boxes that are mounted on the sheet pile wall while preserving all existing anode sled cables (see Drawings).
 - d. Protect the existing anode sled conduit and cables that run at grade along the base of the sheet pile wall and then vertical near the lightering float ramp.
 - e. Verify and/or provide full electrical continuity between all sheet piles in the Marine Park sheet pile wall.
 - f. Installation of a new anode sled pull box.
 - g. Installation of a new anode header cable between the pull and junction boxes.
 - h. Installation of a new anode sled junction box.
 - i. Installation of new test coupons and test station.
 - j. Installation of new anode sled structure bond cables.
 - k. Installation of all ancillary conduit, hangers, expansion joints, and other equipment necessary to properly install the new anode sled conduit and boxes.
 - l. Installation of two galvanic anode sleds at locations indicated and as shown in the Drawings.
2. The Work includes providing the necessary labor, materials, and documentation necessary to meet the minimum requirements described in these Specifications, the Drawings, and referenced supplements for a complete installation.
3. The Work includes providing all required, consequential, and incidental labor, equipment, and materials necessary for a complete installation, including but not limited to procurement of necessary permits, materials, testing, fabrication, inspection, assembly, delivery, handling, and storage. This Work includes associated administrative tasks as required.
4. The following information describes the requirements associated with GACP sheet pile sled system work as a part of this Project but not described in other Sections of the Specifications.
5. The CONTRACTOR shall review the material and installation requirements and verify that the Work provided will meet or exceed minimum project requirements.

SECTION 13112 – SHEET PILE GALVANIC ANODE CATHODIC PROTECTION

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Division 1 Sections, apply to this Section.
- B. Section 01330 – Contractor Submittals
- C. Section 01350 – Health and Safety
- D. Section 01400 – Quality Control
- E. Section 01523 – Health and Safety
- F. Section 01570 – Erosion and Pollution Control
- G. Section 01600 – Materials and Equipment
- H. Section 01700 – Project Closeout

1.3 REFERENCES

- A. Standards, Specifications, Recommended Practices, and those listed herein are part of this Section to the extent referenced.
- B. American Petroleum Institute (API)
 - 1. API Spec 15LR (2001) Specification for Low Pressure Fiberglass Line Pipe and Fittings
- C. American Welding Society (AWS):
 - 1. AWS D1.1 (2010) Structural Welding Code – Steel
 - 2. AWS D3.6 (2010) Underwater Welding Code
- D. ASTM International (ASTM):
 - 1. ASTM A36-12 (2012) Standard Specification for Carbon Structural Steel
 - 2. ASTM A53-12 (2012) Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
 - 3. ASTM A153-09 (2009) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - 4. ASTM A193-12b (2012) Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications
 - 5. ASTM A307-12 (2012) Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
 - 6. ASTM A615-13 (2013) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
 - 7. ASTM A706-13 (2013) Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
 - 8. ASTM B3-13 (2013) Standard Specification for Soft or Annealed Copper Wire
 - 9. ASTM B8-11 (2011) Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft

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10. ASTM B695-04 (2009) Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
 11. ASTM D149-09 (2013) Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
 12. ASTM D570-98 (2013) Standard Test Method for Water Absorption of Plastics
 13. ASTM D696-98e1 (2008) Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C With a Vitreous Silica Dilatometer
 14. ASTM D1248-12 (2012) Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
 15. ASTM D2105-01 (2014) Standard Test Method for Longitudinal Tensile Properties of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Tube
 16. ASTM D2444-99 (2010) Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
 17. ASTM F1554-07 (2007) Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
- E. International Code Council – Evaluation Service (ICC-ES)
1. ICC-ES AC58 (2010) Acceptance Criteria for Adhesive Anchors in Masonry Elements
 2. ICC-ES AC70 (2013) Acceptance Criteria for Fasteners Power-Driven into Concrete, Steel, and Masonry Elements
 3. ICC-ES AC193 (2013) Acceptance Criteria for Mechanical Anchors in Concrete Elements
- F. NACE International (NACE):
1. NACE RP0104 (2004) The Use of Coupons for Cathodic Protection Monitoring Applications
 2. NACE SP0169 (2013) Control of External Corrosion on Underground or Submerged Metallic Piping Systems
 3. NACE SP0387 (2006) Metallurgical and Inspection Requirements for Cast Galvanic Anodes for Offshore Applications
- G. National Electrical Manufacturing Association (NEMA)
1. NEMA ICS 6-1993 (R 2001; R 2006) Enclosures
 2. NEMA TC 14 (2002) Standard for Reinforced Thermosetting Resin Conduit (RTRC) and Fittings
- H. National Fire Protection Association (NFPA):
1. NFPA 70 (2011) National Electric Code (NEC)
- I. Society for Protective Coatings (SSPC):
1. SSPC-SP 2 (2004) Hand Tool Cleaning
 2. SSPC-SP 3 (2004) Power Tool Cleaning

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3. SSPC-SP 6 (2007) Commercial Blast Cleaning
4. SSPC-SP 10 (2007) Near-White Metal Blast Cleaning
5. SSPC-SP 11 (2012) Power Tool Cleaning to Bare Metal

J. Underwriters Laboratories (UL):

1. UL 486A-486B (2013) Wire Connectors
2. UL 2515 (2009) Standard for Aboveground RTRC and Fittings
3. UL 2515A (2011) Supplemental Requirements for Extra Heavy Wall RTRC (RTRC-XHW) and Fittings

1.4 JOB CONDITIONS

- A. Job conditions and requirements are as described by the provisions of the Contract, this Specification Section, General and Supplementary Terms and Conditions, Governing Specifications, Codes, and Standards, and applicable Related Work Sections.
- B. Divers will be required to assist in placing the anode sleds.
- C. The Work will take place in an active port facility and require the following:
 1. Work over water requires the use of a personal flotation device by non-divers.
 2. Construction work may be temporarily halted on short notice due to the arrival or departure of vessels. Close coordination with CBJ Dock and Harbors is required.

1.5 QUALITY CONTROL

- A. CONTRACTOR's work shall meet the requirements of Section 01400 Quality Control.
- B. Regulatory Requirements
 1. In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears.
 2. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the OWNER or their designated representative.
- C. Standard Products
 1. Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship.
 2. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.
 3. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in this section.

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1.6 SERVICES OF CORROSION ENGINEER

- A. The CONTRACTOR shall obtain the services of a Corrosion Engineer to supervise, inspect and test the installation of the GACP systems. Corrosion Engineer refers to a licensed professional engineer with certification of licensing that includes education and experience in cathodic protection of submerged metal structures, or a person accredited or certified by NACE International at the level of Corrosion Specialist or Cathodic Protection Specialist (CP4). Such a person shall have not less than five years of experience in the cathodic protection of submerged structures.
 - 1. The CONTRACTOR's Corrosion Engineer shall instruct CONTRACTOR's personnel in all aspects of the installation of the GACP system.
 - 2. CONTRACTOR's Corrosion Engineer, or their Representative, shall be present on site during the installation of all GACP sheet pile system components, and shall be required to certify the proper installation of same.
 - a. The Corrosion Engineer's Representative shall be certified by NACE International at the level of Cathodic Protection Technologist (CP3), and shall have not less than three years of experience with the installation and energizing of GACP systems used to protect submerged structures.
- B. The CONTRACTOR shall submit evidence of the qualifications of their Corrosion Engineer, and Corrosion Engineer's Representative if employed, to the Engineer for review and approval.

1.7 SUBMITTALS

- A. General
 - 1. Submit the following information in addition to and in accordance with the provisions of this Contract, requirements of this Section, and Section 01330 CONTRACTOR Submittals.
 - 2. Acceptance of any submittal by the ENGINEER does not relieve the CONTRACTOR of the sole responsibility for completing work as defined in these Contract Documents using acceptable materials and procedures.
 - 3. The omission of components, quantities, or properties in submittals may result in the rejection of the submittal.
 - 4. Each of the following submittals shall be submitted to and approved by the ENGINEER prior to mobilization. Orders placed prior to ENGINEER approval are completed at the sole risk of the CONTRACTOR, and may result in rejected material. Rejected material must be replaced at no cost to the OWNER.
- B. Qualifications
 - 1. Provide information on previous GACP installation projects of similar scope, performed by the CONTRACTOR within the past 5 years. Include contact information for individuals who are OWNER representatives that can verify quality of previous work/projects.

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C. Work Plan

1. Provide a work plan for installation of the sheet pile GACP anode system. The plan shall address sequence, means and methods, and equipment for pile preparation, installation, testing, and energizing of the complete sheet pile GACP anode system.

D. Manufacturer's Data

1. Certifications and product data sheets for all materials included or utilized in the installation of the sheet pile GACP system.
2. Data Sheets & Instructions
 - a. Detailed anode material specifications:
 - i. Anode alloy composition
 - ii. Anode electrical capacity
 - iii. Anode open circuit potential
 - iv. Anode dimensions and weight including steel core
 - b. Electrodes for welding
 - c. Coating repair material

E. Personnel Certifications

1. Labor Certifications
 - a. Surface support crew qualifications/certifications.
 - b. Above water welder qualifications/certifications
2. Diver Certifications
 - a. Project reference list, including the name and location of the project, and references with contact information.
 - b. Proof of insurance
 - c. Diver qualifications and skills competency of the proposed dive crew members including the following:
 - i. Association of Diving Contractors International (ADCI) card equal or greater than the position in which they are assigned
 - ii. Current American Red Cross First Aid and CPR Cards
 - iii. AWS D3.6M:2010 welding certification or equivalent if underwater welding is performed
 - d. Supervisor qualifications, including proof of 5 years in a supervisory role.
3. Above Water Level Welder Certifications
 - a. AWS D1.1:2010 welding certification or equivalent
4. Qualifications of Corrosion Engineer. Delete - this was required in 1.6

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F. Diving Services Deployment Plan

1. Work Procedures
2. Schedule
3. Suitable Weather Criteria
4. Communication Plan
5. Safety Plan
 - a. Emergency Response Plan
 - b. Local specialty medical providers

G. Delivery, Storage, and Protection

1. Deliver materials in original packages, containers, boxes, or crates bearing the name of the manufacturer, brand, and model. Store all materials and equipment delivered to the construction site to prevent any damage or deterioration resulting from exposure to weather conditions or other potential hazards. Exercise particular care to avoid damaging materials during lifting or handling operations.

H. Shop Drawings

1. CONTRACTOR shall submit shop drawings defining the completed structure, connection details, and any unique interface conditions for review and approval by the ENGINEER. Shop drawings shall confirm the general arrangement shown on the Project Drawings and specifically include:
 - a. Elements in shop drawings shall be shown with respect to grid or bent locations as shown on Contract Documents.
 - b. The shop drawings shall show the proposed construction in detail.
 - c. Shop drawings shall be approved by the ENGINEER prior to the procurement of materials, fabrication of custom construction materials or other preparatory work.
 - d. Anode sled and cable assemblies
 - e. Anode sled junction boxes
 - f. Test coupon and reference electrode locations
 - g. Anode sled conduit runs

I. Inspection and Testing

1. Inspection results indicating that manufacturer's performance criteria have been satisfied at each sled.
2. Dive Inspection Recordings
 - a. Videos shall be provided of:
 - i. Each anode sled installation from the sled, following the cable to the sheet pile wall and its respective conduit run.
 - ii. Each test station installation from the coupon, following the cable to the sheet pile wall and its respective conduit run and test station.
 - b. All videos shall include audio descriptions or video subtitles that clearly and accurately describe the location of the elements being shown.

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3. Verification of electrical continuity between all the Marine Park sheet piles to be protected.
4. Measurement of the sheet pile potentials, prior to and after installation of anodes (see 3.12 of this Section).
5. Measurement of each anode sled's anode potential prior to and after connection.
6. A written record detailing activities in accordance with this Section and Section 01400 – Quality Control as applicable.
7. Non-conformities shall be submitted to the ENGINEER.

J. As-Built Drawings

1. As-built drawings shall be submitted immediately after completion of installation showing the following items. Elevations may be measured using as-built drawings as a benchmark.
 - a. Grid locations of the new and existing anode sleds
 - b. Elevations of all anode sleds
 - c. Grid locations of all new conduit, boxes, and test coupons and stations
 - d. Location of any installed continuity cables or welds
 - e. Location of and repair of new coating being installed as part of this work

PART 2 -- PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. CONTRACTOR shall comply with all written recommendations of the manufacturer regarding installation of the specified materials and system.
- B. In a manner consistent with the respective manufacturer, the CONTRACTOR shall provide all shipping and handling required to transport and store the materials, on-site, prior to installation.
- C. The ENGINEER may approve the use of alternate materials subject to the ability of the equivalent product to meet or exceed the minimum performance characteristics of the identified products with respect to case history, corrosion resistance, environmental toxicity, service life, temperature resistance, wear profile, serviceability, anode output capacity, anode open circuit potential, warranty, and other criteria necessary to demonstrate a quality and equivalent product.

2.2 SUBSTITUTIONS

- A. Requests for substitution shall include complete description of the product, manufacturer's catalog cuts, and evidence of satisfactory past performance.
- B. A request constitutes a representation that the CONTRACTOR:
 1. Has investigated the proposed product and determined that it meets or exceeds the quality and extended performance level of the specified product.
 2. Will provide the same or better warranty for the Substitution as for the specified product.
 3. Will coordinate Substitution installation and make necessary changes which may be required for the Work to be successfully completed with no additional cost to the OWNER.

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4. Waives claims for extra costs or time extension, which may subsequently become apparent.
 5. Will reimburse the OWNER for review or redesign services associated with re-approval by the ENGINEER.
- C. Include the name and contact information of the owner of the property where the product was used successfully.
- D. Substitutions will not be considered when they are indicated or implied on Shop Drawings or product data Submittals without a separate written request for consideration of the Substitution or when acceptance will require revision to the Contract Documents.

2.3 MATERIALS

A. General

1. Materials and material requirements specified herein are the minimum standard of quality that will be accepted.
2. Each component of the GACP System shall be supplied or warranted by a single manufacturer. Combining proprietary products from multiple companies will not be allowed.
3. Materials specified herein shall not preclude the use of equivalent materials. Equivalent materials shall be submitted to ENGINEER for consideration at least ten (10) working days prior to the Date of the Bid opening.

B. Aluminum Galvanic Anodes

1. Anode Type: The anodes shall be cast aluminum alloy.
2. Anode Alloy:
 - a. The aluminum alloy shall have the following chemical composition:

Element	Percentage by Weight
Indium	0.015 to 0.025%
Zinc	4.75 to 6.0%
Silicon	0.08 to 0.15%
Copper	0.003% maximum
Iron	0.12% maximum
Others, each	0.02% maximum
Others, total	0.05% maximum
Aluminum	Remainder

- b. Anode performance characteristics:

Anode capacity:	1150 ampere-hours per pound (min)
Potential:	1.08 volts or more negative (saturated calomel electrode, open circuit in seawater)
Consumption rate:	7.6 pounds per amp year (max)

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C. Anode Samples

1. The CONTRACTOR shall provide certification that the anodes to be supplied meet the chemical composition indicated in this Specification. Samples shall be tested in accordance with NACE SP0387. Performance testing, including anode capacity, potential, and consumption rate shall be made in accordance with NACE TM0190. The four day test found in DNV BP401 Annex B is not acceptable.

D. Sled Anodes

1. Anodes shall be of the weight and dimensions as indicated on the Drawings.
2. At a minimum, anodes shall have ½-inch by 3-inch flat stock lugs or 2 inch diameter Schedule 80 steel pipe cores. The lugs/pipeline cores shall extend from the anode on each end as shown in the Drawings, when the anode is welded onto the sled frame the bottom of the anode is flush with the frame element to which the lug is welded. The steel core shall comply with ASTM A36 and ASTM A53
3. The core for the anodes shall be located in the center of the anode casting and run along the anode's longitudinal axis.
4. To facilitate proper bonding of the aluminum alloy to the steel core during casting, the surface of the steel core shall be prepared to a SSPC-SP 10/NACE No. 2 (near-white metal).

E. Anode Surface Irregularities

1. Shrinkage depressions on the anode surface shall not exceed 10% of the nominal height of the anode as measured from the uppermost corner to the bottom of the depression.
2. Not more than 1 percent of the total surface of the anode casting shall be contaminated with nonmetallic inclusions visible to the naked eye.
3. The straightness of the anode shall not deviate more than 2 percent of the anode nominal length from the longitudinal axis of the anode. Within the aluminum section, transverse cracks of unlimited length and depth are permitted if width does not exceed 0.2 inch and there are not more than 10 cracks per anode. Small dense cracks shall be considered one crack and cracks of 0.02 inch width or less shall be ignored. Longitudinal cracks are not permitted in any length except in the final "topping-up" metal at shrinkage depressions.

2.4 CABLE AND WIRE

A. Anode Sled Lead Wire:

1. ASTM D1248, Type HMWPE (High Molecular Weight Polyethylene), stranded copper conductors, not less than AWG #6, and of sufficient length to extend from the sled to the junction box without splicing. Two anode sled lead wires shall be attached to the two separate steel bus plates on each anode sled. On the sleds, anode lead wires shall be factory connected to the steel bus plates by exothermic welds. Dielectric material shall extend past the connection and cover the lead wire insulation by not less than 3/8 inch. For each sled, the two anode lead wires shall be run in an ethylene propylene diene monomer (EPDM) M-class rubber hose for the entire run from the sled to the conduit at the mud line of the pile nearest the junction box where connection to the structure bond wire shall occur. At the sled end, the EPDM hose shall be cast in concrete at least six (6) inches. At the conduit, the hose shall continue within the confines of the conduit a minimum of two (2) feet. All anode sled lead wires terminating in a junction box shall have a cable identification tag clearly identifying the sled.

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B. Anode Header Cable

1. ASTM D1248, Type HMWPE, stranded copper conductor. Copper wires shall conform to ASTM B3 and ASTM B8. Anode header cables shall be AWG#2. All wires terminating at a pull box or junction box shall have a cable identification tag clearly identifying the cable's purpose. What is the difference between this and A?

C. Structure Bond and Continuity Cables:

1. ASTM D1248, Type HMWPE, stranded copper conductor. Copper wires shall conform to ASTM B3 and ASTM B8. Structure bond and continuity cables shall be AWG#4. All lead wires terminating at a test station or junction box shall have a cable identification tag clearly identifying the cable's purpose.

D. Test Station Bond Wires:

1. ASTM D1248, Type HMWPE, stranded copper conductor. Copper wires shall conform to ASTM B3 and ASTM B8. Test bond wires shall be AWG#6. All lead wires terminating at a test station or junction box shall have a cable identification tag clearly identifying the cable's purpose.

E. Cable and Wire Identification:

1. Laminated plastic material with black letters on a yellow background. Print letters and numbers a minimum of 3/16 inch in size. Provide identifier legend in accordance with the Drawings.

F. Wire Connectors:

1. UL 486A-486B, solderless copper lugs.

2.5 SHUNTS

- A. Shunts for anode sled junction boxes shall be 0.01 ohm, 6 ampere, manganin wire type. Shunts shall be type RS as manufactured by Holloway or approved equal.

2.6 MAGNETIC SWITCH

- A. The test coupon in the Permanent Reference electrode shall be connected to the pile through a magnetic switch that is normally closed. The switch shall be in a board mounted configuration and have a switching current rating of 0.5 amps, a current carrying rating of 1.0 amps, a minimum breakdown voltage of 200 volts DC, and a contact resistance of 150 milliohms, as manufactured by Electrochemical Devices, Inc., model UI-MS-CBRD, or approved equal. The CONTRACTOR shall also provide 2 activating magnets, UI-MS-MAG as recommended by the magnetic switch manufacturer.

2.7 TEST COUPONS

- A. Test coupons shall include permanent reference electrodes combined in a common assembly with an integral steel coupon. The reference electrodes shall be silver-silver chloride. The test coupons shall be specifically manufactured for marine use, incorporating a 1-5/8 inch diameter by 10-3/4 inches long plastic tube with an ion trap to minimize contamination of the cell and an integral magnet mount. Electrical connection to the reference electrode and steel coupon shall

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be AWG #16, 600 volt insulation, dual lead cable with sheathing compatible with extended seawater immersion. The cable shall be of sufficient length to extend from the permanent reference electrode/coupon assembly to the test station without splicing. Reference electrodes shall have a minimum 15 year life, with a stability of plus or minus 5 millivolts under a 3 microamp load, and an initial accuracy of plus or minus 10 millivolts, referenced to a calibrated portable reference electrode. The magnetic mounted reference electrode with integral coupon shall be in accordance with NACE RP0104 such as an IRCM-AGG-C, as manufactured by Electrochemical Devices, Inc. or approved equal.

2.8 JUNCTION BOXES, TEST STATIONS, AND PULL BOXES

- A. Enclosures shall be fiberglass construction NEMA ICS 6, Type 4X enclosures with terminal boards and labeled with nameplates. Hinges shall be stainless steel and a neoprene gasket shall be furnished with the box to ensure a water tight seal. Provide nameplate labeled as directed by the OWNER. The tag shall be engraved on a contrasting color, with lettering a minimum of 3/4-inch. Mount anode pull and junction boxes as indicated in the Drawings.
- B. Anode sled pull and junction boxes shall be of the dimensions shown in the Drawings.
- C. Provide terminal boards for anode junction boxes, bond boxes, and test stations made of minimum of 0.25" NEMA Grade "XX" laminated phenolic, rated for Class "B" (105°C) operation and sized to fit into the anode junction box, as indicated.
- D. All hardware installed on the panel boards shall be tin-plated brass or bronze. Install solderless copper lugs and copper buss bars, and shunts as shown in the Drawings. The cables and shunts shall be connected to the buss bars using double-nutted brass bolts, nuts and lock washers shall be installed on the panel boards as indicated in the drawings. Terminate each cable separately (one terminal required for each conductor).
- E. Test station terminal connections shall be permanently tagged to identify each termination of conductors as shown in the Drawings (e.g. identify the conductors connected to the structure, coupon, and reference electrode). Conductors shall be permanently identified by means of plastic or metal tags, or plastic sleeves to indicate termination.

2.9 CONDUIT AND FITTINGS

- A. Fiberglass Conduit
 - 1. The conduit shall be RTRC-XHW fiberglass reinforced conduit that meets UL 2515A requirements and those of NEMA TC 14 and the requirements of NFPA 70.
 - a. Conduit and fittings shall consist of continuous E or E-CR glass roving encapsulated in a thermally-cured epoxy resin pigmented with UV-inhibiting carbon black.
 - b. Conduit and fittings shall be suitable for use at temperatures ranging from -40°F to 230 °F.
 - c. Dielectric strength shall exceed 500 volts/mil when tested in accordance with ASTM D149.
 - d. The conduit shall have following mechanical strength when tested in accordance with referenced test method:

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Tensile strength, ultimate	11,000 psi	ASTM D2105
Coefficient of thermal expansion	1.2×10 ⁻⁵ in/in/°F	ASTM D696
Glass content	65-70%	API Spec 15LR
Water absorption	1% max	ASTM D570
Impact resistance:		ASTM D2444
Size:	2"	>120 lbf
	3"	>140 lbf
	4"	>160 lbf
	5"	>200 lbf
	6"	>250 lbf

- The conduit and fittings shall be as manufactured by Champion Fiberglass XW Conduit or FRE Composites XHW Conduit, or ENGINEER-approved equal.

B. Conduit/Cable Support

- Provide seismic support for conduit. Spacing shall meet the requirements of the NEC and CBJ code.
- Support conduit to concrete by non-metallic pipe straps or non-metallic hangers. Support conduit to piles using PVC coated galvanized steel pipe straps.
- Anchor conduit supports and boxes along sheet pile wall using drive pin and threaded stud types, as applicable for each condition. Fasteners shall be manufactured from AISI 1060 to 1065 steel austempered to a Rockwell "C" Hardness of 51-56, and have a mechanically galvanized finish. Fasteners shall have a minimum bending yield strength of 90,000 psi. Fasteners shall have an evaluation report issued by ICC-ES and have been tested in accordance with ICC-ES AC70.
- Anchor conduit supports and boxes along concrete surfaces using adhesive anchors. The anchors have an evaluation report issued by ICC-ES and have been tested in accordance with ICC-ES AC193. The anchors shall be of an adhesive style and consist of i.) an insert, and ii.) an adhesive formula. Inserts shall meet the requirements of ASTM A36, A193 Grade B7, A307, or F1554 for threaded rods or ASTM A615 or A706 for rebar. For exterior exposure the threaded insert shall be stainless steel or zinc coated carbon steel. The zinc coating shall be either hot-dipped in accordance with ASTM A153 Class C or D; mechanically deposited in accordance with ASTM B695, Class 65, Type I; or demonstrated through tests to be equivalent to the coatings previously described. The adhesive formula shall be epoxy and shall have an evaluation report issued by ICC-ES and shall have been tested in accordance with ICC-ES AC58 for all mandatory tests and including the following:
 - Seismic tension and shear
 - Long term creep at elevated temperatures
 - Static loading at elevated temperatures
 - Damp and water-filled holes
 - Freeze-thaw conditions
 - Critical and minimum edge distance and spacing
- Load applied to fasteners shall not exceed one-fourth proof test load. Fasteners attached to concrete shall be vibration resistant and shock resistant. For conduits equal or greater than 2 inches inside diameter, provide supports to resist forces of 0.5 times the equipment weight in any direction and 1.5 times the equipment weight in the downward direction.

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C. Expansion Joints

1. Conduit expansion joints shall be installed as shown in the Drawings.

D. Conduit Bushings

1. Plastic bushings shall be used at each end of all conduit runs and all enclosure entries to protect cables from nicks and cuts.

2.10 EXOTHERMIC WELD KITS

- A. Exothermic weld kits specifically designed by the manufacturer for welding the types of materials and shapes provided. All exothermic welds shall be coated with a bitumastic coating (Royston Roybond 747, Bitumastic 50 or equal) and plastic weld cap specifically designed for protecting exothermic welds (Tapecoat / Royston Handy Cap or equal).

2.11 COATING REPAIRS

- A. Any new coating that is damaged during the installation of the GACP system shall be repaired.
- B. Repairs to painted/coated surfaces made above water shall be in accordance with Section 09960.
- C. Repairs to damaged painted/coated surfaces underwater, or items designated as being coated underwater, shall be made with one of the following products or an approved equal: Carboline A-788 Splash Zone or Denso SeaShield 525 Underwater Epoxy.

PART 3 -- EXECUTION

3.1 GENERAL

A. Site Verification of Conditions

1. CONTRACTOR shall examine areas and conditions under which the installation shall be performed for conditions that may adversely affect installation of the anodes, cable, conduit, anode sled junction boxes, test stations, and coupons.
2. Correct conditions detrimental to timely and proper execution of the Work.
3. Immediately notify the Owner's Representative of any conditions that will incur delays in the Work or that cannot be corrected absent a change in the Bid Amount. I would delete this - it opens the door for the contractor to look for delays.

- B. Unless otherwise indicated, all materials shall be installed in accordance with the manufacturer's recommendations, following applicable safety procedures, and as directed by the ENGINEER.

3.2 FABRICATING ANODE SLEDS

- A. The area where the anode is to be welded to the sled frame, and all sled frame weld areas, shall be cleaned by blast cleaning (SSPC-SP 6), or hand tool cleaning (SSPC-SP 2), or power tool cleaning (SSPC-SP 3) just prior to welding the anode to the frame and/or frame elements.
- B. All frame welds shall be per AWS D1.1/D1.1M.
- C. The anodes shall be welded to the frame per AWS D1.1/D1.1M

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- D. The weld for each anode leg or strap shall be capable of fully supporting the full anode weight.
- E. Anode sled lead wires shall be connected directly to the steel bus plates on the sleds using exothermic welds (see Section 3.8).
- F. As assembled, there should be sufficient allowance to maintain slack in the anode sled lead wires to compensate for movement during placement of the sled.
- G. Install the four (4) integral anode sled lifting eyes per the Drawings.

3.3 PLACING ANODE SLEDS

- A. The anode sleds shall be lifted and lowered using the four (4) integral lifting eyes on the sled. The sleds shall be placed at the locations shown on the Drawings.
- B. The anode cables shall not be used to assist in the placement of the sleds. Slack shall be maintained in the cables at all times during placement of the sleds.
- C. Run the cables from each anode sled to the anode pull box as shown in the Drawings.

3.4 ANODE PULL AND JUNCTION BOXES

- A. Anode pull and junction boxes shall be installed in accordance with these Specifications and in accordance with the details and at the locations shown on the Drawings.

3.5 ANODE SLED LEAD WIRES

- A. Run the EPDM hose sheathed cable pair from each anode sled to the corner of the sheet pile bulkhead as shown in the Drawings.
- B. In adjacent vertical RTRC-XHW conduit, run the two cable pair(s) from that bulkhead corner to the anode sled pull box as shown in the Drawings. As installed the EPDM hose shall extend a minimum of two (2) feet into the RTRC-XHW conduit. Leave a minimum of 12 inches of slack wire in the anode pull box.
- C. Run the free ends of the two existing anode sled wires that were previously removed from the existing conduit and protected during coating work to the anode pull box (see Drawings).
- D. Connect the free ends of each new anode sled lead wire pair to the terminal board in the anode pull box, as shown in the Drawings.
- E. Connect the free ends of each of the two existing anode sled lead wires to the terminal board in the anode pull box, as shown in the Drawings.

3.6 ANODE HEADER CABLE make sure this is called out on the drawings

- A. Verify continuity between both the two existing sleds and two new sleds and the new anode pull box.
- B. Run the anode header cable from the new anode pull box to the new anode junction box accordance with these Specifications and in accordance with the details and at the location shown on the Drawings.

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3.7 WIRE IDENTIFICATION

- A. Brass wire identifiers or wrap around cable markers shall be placed on the wires prior to backfill, submersion or installation in conduit, junction boxes or test stations.

3.8 EXOTHERMIC WELDS

- A. Remove coating materials from the surface of the steel to be welded over an area of sufficient size to make the connection.
 - 1. The steel surface shall be cleaned to bright metal per SSPC-SP 11.
 - 2. The use of resin-impregnated grinding wheels will not be allowed.
 - B. Only remove sufficient cable insulation such that the copper conductor can be fully inserted into the welding mold or copper sleeve.
 - C. Depending on the wire gauge and the manufacturer's recommendations, fit a copper sleeve over the conductor prior to welding.
 - D. Exothermic weld connections shall be installed in accordance with the manufacturer's instructions and at the locations indicated.
 - E. After the weld has cooled,
 - 1. Remove all slag.
 - 2. Inspect the weld in accordance with the manufacturer's instructions including, but not limited to:
 - a. Size (reject if does not fully cover all cable within the confines of the mold)
 - b. Color (should be gold to bronze in color)
 - c. Surface finish (reject if slag deposits cover more than 20% of the surface)
 - d. Porosity (reject if can insert a 1/32-in dia. wire beyond the center of the conductor)
 - e. Verify adherence and integrity of each weld by striking it obliquely with a 1-pound hammer. All defective welds shall be removed and replaced.
 - F. Immediately after passing the adhesion test, remove any adjacent splatter from surrounding steel and clean the area per SSPC SP 2 or SP 3.
 - G. Coat the weld, any exposed copper wire, and surrounding steel with approved electrical grade bitumastic or weld cap primer and cover the exothermic welds with a plastic weld cap per the manufacturer's instructions.
 - H. All of items 3.8 A through G must be completed on a single tide turn so that no water exposure occurs prior to the full installation of the weld cap.
- ### 3.9 STRUCTURE BOND WIRES
- A. Run the structure bond wires through RTRC-XHW conduit from the exothermic weld to the appropriate junction box.
 - B. Connect the remaining free end of the structure bond wires to the terminal board as shown in the Drawings. Leave a minimum of 12 inches of slack wire for each bond in the anode junction box.

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3.10 CORRECTING ELECTRICAL DISCONTINUITY

- A. To correct electrical discontinuity,
 - 1. Any sheet piles found to be electrically discontinuous shall be made electrically continuous by the installation of continuity cables or short ($\frac{1}{4}$ to $\frac{1}{2}$ by 3-inch long) fillet welding of the adjacent electrically discontinuous sheet piles.
 - 2. All continuity cables or weld connections shall be made within two feet of the pile cap.
 - 3. Where used, continuity cable-sheet pile connections shall be made by the thermite weld process as described above in Section 13112 Paragraph 3.8.

3.11 TEST COUPONS – CALIBRATION AND INSTALLATION

- A. The test coupons shall be installed in accordance with, and at the locations shown on, the Drawings. Prior to installation, the reference electrode shall be soaked in a container of seawater for 30 minutes.
- B. The test coupon reference electrode shall be calibrated by measuring the potential difference between the permanent reference electrode and a calibrated portable reference electrode placed in seawater adjacent to one another. The potential difference between the test coupon reference electrode and the portable reference electrode (expressed as silver-silver chloride reading) shall not exceed 15 millivolts. Coupons with permanent reference electrodes that do not calibrate to within 15 millivolts shall not be installed and shall be replaced at the CONTRACTOR's expense.
- C. After installation of the coupon assembly, recalibrate the permanent reference electrode in the presence of the ENGINEER or his/her representative by measuring the difference in potential between the permanent reference electrode and a calibrated portable silver-silver chloride reference electrode with a saturated potassium chloride filling solution (sat KCl), with the voltmeter test lead connected to the electrode in the test station. Potential differences between the two electrodes should not exceed 25 millivolts. Portable copper-copper sulfate electrodes shall not be used for this testing. Permanent reference electrodes not within 25 millivolts shall be removed and replaced at the CONTRACTOR's expense. This testing provision shall also apply to any replacement reference electrodes.

3.12 TEST STATIONS

- A. Install the test stations in accordance with the Drawings and the manufacturer's instructions.
- B. Terminate all lead wires using solderless eye lugs.
- C. Connect all lead wires and switch as shown in the Drawings.
- D. Label the connections as shown in the Drawing.

3.13 INSPECTION AND TESTING

- A. The installed GACP system shall be tested and inspected by the ENGINEER. The CONTRACTOR's Corrosion Engineer shall perform interim testing during the installation as required to confirm that the systems are being properly installed and operating in accordance with NACE Recommended Practices. The CONTRACTOR shall also submit certification that the anodes to be installed meet the requirements of these Specifications.

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- B. All data obtained during testing shall include the data, date, time and locations at which tests were performed. Where additional testing is required due to deficiencies in materials or installation, the CONTRACTOR shall be responsible for correcting the deficiency and the cost of retesting by the ENGINEER. Required testing shall include the following:
1. The CONTRACTOR's Corrosion Engineer shall verify electrical continuity between all the seawater exposed sheet piles throughout the Marine Park sheet pile seawall (see Drawings).
 - a. The testing may be performed using the "fixed cell-moving ground" technique, with a potential difference less than 3 millivolts indicating electrical continuity between sheet piles.
 - b. The CONTRACTOR may request an alternate testing procedure, by submitting the proposed technique and evaluation criteria, subject to approval of the ENGINEER.
 - c. Any sheet piles found to be electrically discontinuous shall be made electrically continuous by the installation of continuity cables welding of the adjacent electrically discontinuous sheet piles as described above in Section 13112 Paragraph 3.10.
 2. Prior to installation of the anodes, potential measurements shall be made using a calibrated portable silver silver-chloride reference electrode (sat KCl) at anode test stations and at every 10th sheet pile.
 3. Potential measurements at the sheet piles shall also be used to confirm electrical continuity between the sheet piles. Upon completion of the installation of the anodes, potential measurements shall be taken at the same locations to confirm that cathodic protection is being achieved. All potential measurements shall be taken using a portable voltmeter with a minimum input impedance of 10 megohm.
 4. The current output of the anode sleds shall be calculated by measuring the voltage drop across the shunt resistor in the test station, in accordance with Ohm's law.
- C. With all anodes installed and connected, and the system in operation for a minimum of one week, potentials shall be measured along the sheet piles using a portable silver-silver chloride reference electrode (sat KCl). Potentials shall be measured at the same locations tested prior to the installation of the anodes.
- D. The CONTRACTOR's Corrosion Engineer shall prepare for the ENGINEER and OWNER a detailed report outlining all testing completed and any problems encountered and their resolution.

3.14 CRITERIA FOR CATHODIC PROTECTION

- A. Testing and evaluation of system performance shall be in accordance with NACE RP0169. Criteria for determining the adequacy of protection shall be selected by the ENGINEER as applicable:
1. A negative potential of at least 0.73 volts (0.85 volts versus a copper-copper sulfate reference electrode) as measured between the pile and a silver-silver chloride reference electrode (sat KCl) immersed in seawater and immediately adjacent to the pile under test. Measurement of the potential shall be performed with the protective current being applied for a minimum of 24 hours. Voltage drops may be considered for valid interpretation of the potential measurements.

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2. A minimum polarization shift of 100 millivolts, measured between the steel coupon and the permanent silver-silver chloride reference electrode, installed at the test station locations, would be indicative of adequate levels of protective current being supplied to the steel piles. At the instant the current is interrupted, using the magnetic switch ("instant off"), an immediate voltage shift will occur. At each test station, the instant off value is that voltage reading that appears on the meter, a minimum of 0.5 seconds after interruption of the current. That value shall be used as the base reading from which to measure the polarization. The 100 millivolt shift is determined by comparing the native potential as measured prior to connection of the anodes, with the instant off value as measured after the connection of the anodes. The polarization shift may also be measured as a decay, where the polarization decay is the difference between the native reading and the potential measured 24 hours after interruption of the current.

3.15 ONE YEAR ANNIVERSARY INSPECTION

- A. The OWNER shall set a date for inspection and retesting of the installed systems, one year after completion of the installation.
- B. The testing shall be completed by the ENGINEER and shall be attended by Owner's Representative, and the CONTRACTOR.
- C. Any deficiencies identified by the ENGINEER that are the result of either poor construction practice or defective materials shall be corrected by the CONTRACTOR at no cost to the OWNER.

END OF SECTION