

CBJ Downtown Waterfront Facilities Corrosion Control Project

Contract No. DH18-027



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END OF SECTION

SECTION 00030 NOTICE INVITING BIDS

OBTAINING CONTRACT DOCUMENTS. The Contract Documents are entitled:

**CBJ Downtown Waterfront Facilities
Corrosion Control Project
Contract No. DH18-027**

The Contract Documents may be obtained at the City & Borough of Juneau (CBJ) Engineering Department, 3rd Floor Marine View Center, upon payment of **\$35** (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 January 18, 2018, in 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. Conference call capability will be available for the Pre-Bid meeting. Proposers intending to participate via conference call shall notify the Contracts Office in the CBJ Engineering Contracts Division, at (907) 586-0490, or Contracts@juneau.org by 4:30 p.m., January 17, 2018.

DESCRIPTION OF WORK. This Project consists of all activities necessary to provide the Downtown Waterfront Facilities Corrosion Control Project as shown in the contract documents. The work includes installation of an impressed current cathodic protection system and electrical improvements and miscellaneous related WORK.

COMPLETION OF WORK.

Work Description

Completion Date

Substantial Completion	April 30, 2018
Final Completion	May 6, 2018

DEADLINE FOR BIDDER QUESTIONS: January 24, 2018

DEADLINE FOR BIDS: Sealed bids must be received by the Port Director **prior to 2:00 p.m., Alaska Time on January 31, 2018** 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 Port Director, which will establish the official time of receipt of bids. Bids will be opened at 2:15 p.m. on January 31, 2018 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:

CBJ Docks and Harbors
Port Director's Office
76 Egan Drive, 2nd Floor
Juneau, AK 99801

SECTION 00030 NOTICE INVITING BIDS

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

MAILING ADDRESS:

CBJ Docks and Harbors
Port Director
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.**

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BID NUMBER: DH18-027

**SUBJECT: CBJ Downtown Waterfront
Facilities Corrosion Control Project**

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DEADLINE DATE:

PRIOR TO 2:00PM ALASKA TIME

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 is in the vicinity of the Marine Park 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.

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.

SECTION 00030 NOTICE INVITING BIDS

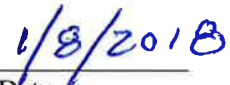
BID TO REMAIN OPEN. The Bidder shall guarantee the Bid for a period of 90 Days from the date of Bid opening. Any component of the Bid may be awarded anytime during the 90 Days.

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.

STANDARD SPECIFICATIONS. The Standard Specifications for Civil Engineering Projects and Subdivision Improvements, December 2003 with current Errata Sheets, as published by the City and Borough of Juneau, is part of these Contract Documents and shall pertain to all phases of the contract. This document is available for a fee from the City and Borough of Juneau Engineering Contracts Office, (907) 586-0490, or you may view it on line at: www.juneau.org/engineering.

OWNER: City and Borough of Juneau

By: 
Carl Uchytel, PE, Port Director


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 Port Director 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. Substitution requests are not accepted during the bidding process. 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 (907-586-0295), provided that such modification is received by the Port Director no later than the deadline for bids. Modifications will be time and date stamped by the Port Director, 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 Port Director 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 Port Director (907-586-0292) 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.

18.0 EXECUTION OF AGREEMENT.

- A. All Bids of value greater than \$100,000 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.

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.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

B. Late protests shall not be considered by the CBJ Port Director.

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
CBJ DOCKS AND HARBORS
FAX NO. 907-586-0295

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.

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

Total Bid 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

**CBJ Downtown Waterfront Facilities
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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 BID OPENING:

- 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
- Contractor Financial Responsibility, Section 00370

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

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		
13115.1	Marine Park ICCP System	Lump Sum	All Req'd	Lump	Sum		

TOTAL 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

**CBJ Downtown Waterfront Facilities
Corrosion Control Project
Contract No. DH18-027**

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

**CBJ DOWNTOWN WATERFRONT FACILITIES
CORROSION CONTROL PROJECT
Contract No. DH18-027**

SUBCONTRACTOR REPORT

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 00370 - CONTRACTOR'S FINANCIAL RESPONSIBILITY

The apparent low Bidder must complete this form and submit *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. Attach additional sheets as necessary to respond to questions.

PROJECT: DH18-027 CBJ Downtown Waterfront Facilities Corrosion Control Project

As the General Contractor on this project, I intend to subcontract ____% of the total value of this contract.

A. EXPERIENCE

1. Have you ever failed to complete a contract due to insufficient resources?

☐ No ☐ Yes If YES, explain:

2. Describe arrangements you have made to finance this work:

3. Have you had previous construction contracts or subcontracts with the City and Borough of Juneau?

☐ Yes ☐ No

4. Describe your most recent or current contract, its completion date, and scope of work:

5. List below, and/or as an attachment to this questionnaire, other construction projects you have completed, dates of completion, scope of work, and total contract amount for each project completed in the past twelve months.

SECTION 00370 - CONTRACTOR'S FINANCIAL RESPONSIBILITY

6. Per Alaska Statute 36.90.210, on previous public contracts, have you ever failed to pay a subcontractor within eight working days after receiving payment from the Owner (for projects occurring within the last 3 years)?

☐ Yes ☐ No If yes, please attach a detailed explanation for each occurrence.

B. EQUIPMENT

1. Describe below, and/or as an attachment, the equipment you have available and intend to use for this project.

ITEM	QUANTITY	MAKE	MODEL	SIZE/CAPACITY	PRESENT MARKET VALUE

2. Do you propose to purchase any equipment for use on this project not listed on table B-1?

☐ No ☐ Yes If YES, describe type, quantity, and approximate cost:

3. Do you propose to rent any equipment for this work not listed on table B-1?

☐ No ☐ Yes If YES, describe type and quantity:

SECTION 00370 - CONTRACTOR'S FINANCIAL RESPONSIBILITY

4. Is your bid based on firm offers for all materials necessary for this project?

☐ Yes ☐ No If NO, please explain:

I hereby certify that the above statements are true and complete.

Contractor Signature

Name and Title of Person Signing

Signature

Date

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. DH18-027, CBJ Downtown Waterfront Facilities Corrosion Control Project.**

The WORK is generally described as follows: This Project consists of all activities necessary to provide the Downtown Waterfront Facilities Corrosion Control Project as shown in the contract documents. The work includes installation of an impressed current cathodic protection system and electrical improvements and miscellaneous related WORK.

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

ARTICLE 2. CONTRACT COMPLETION TIME.

<u>Work Description</u>	<u>Completion Date</u>
Substantial Completion	April 30, 2018
Final Completion	May 6, 2018

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 **\$1,500** 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. DH18-027 CBJ Downtown Waterfront Facilities Corrosion Control Project.** those Lump Sum amounts as set forth in the Bid Schedule in the Contract Documents for this Project.

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

SECTION 00500 - AGREEMENT

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 15 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: Carl Uchytel, PE, Port Director
(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

907-586-0292 907-586-0295
(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:

**CBJ Downtown Waterfront Facilities
Corrosion Control Project
Contract No. DH18-027**

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.

SECTION 00610 - PERFORMANCE BOND

**CBJ Downtown Waterfront Facilities
Corrosion Control Project
Contract No. DH18-027**

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)

(Street or P.O. Box)

(City, State, Zip Code)

SURETY:

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

Date Issued: _____

(Printed Name)

(Company Name)

(Street or P.O. Box)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

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

END OF SECTION

**CBJ DOWNTOWN WATERFRONT FACILITIES
CORROSION CONTROL PROJECT
Contract No. DH18-027**

PERFORMANCE BOND

Page 00610-2

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:

**CBJ Downtown Waterfront Facilities
Corrosion Control Project
Contract No. DH18-027**

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

**CBJ Downtown Waterfront Facilities
Corrosion Control Project
Contract No. DH18-027**

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)

(Street or P.O. Box)

(City, State, Zip Code)

SURETY:

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

Date Issued: _____

(Printed Name)

(Company Name)

(Street or P.O. Box)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

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

END OF SECTION

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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.

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

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.

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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.

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.

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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.

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.

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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.
- 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.

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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 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

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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.

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

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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.
 - 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

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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 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

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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 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

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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 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

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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 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

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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.

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

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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 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.

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- 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 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.

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- 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 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,

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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 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.

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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;
 - 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.

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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 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

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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

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subsequent to the execution of the contract, the ENGINEER's clarifications and 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

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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.

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.

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- 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.

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.

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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.
- 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

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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.
- 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.

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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.
- 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

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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" 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

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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 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:

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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.
- 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.

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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.
- 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

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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 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.

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- 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.
- 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.

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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 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

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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 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.

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

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- 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 WORK. In such a case, the CONTRACTOR shall have no claims against the OWNER except: (1) for

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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

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materials are in a stockpile, the ENGINEER may require: That it remain in stockpile; the 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

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list, and no firm, corporation, partnership or association in which the person has an 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

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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.

- 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

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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. 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. The CONTRACTOR must provide certification of proper insurance coverage and amendatory endorsements or copies of the applicable policy language affecting coverage required in this agreement to the City and Borough of Juneau. 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**” for the Commercial General Liability policy and any other policies, if required in this Section. NOTE: This requirement has changed. The OWNER no longer requires certificates of insurance referencing project names and contract numbers.

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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. **The CONTRACTOR grants a waiver of any right to subrogation against the OWNER by virtue of the payment of any loss under such insurance.** This provision applies regardless of whether or not the OWNER has received a waiver of subrogation endorsement from the insurer.

Workers' Compensation: (under Paragraph 5.2C.1 of the General Conditions) as in accordance with AS 23.30.045:

- a. State: Statutory
- b. 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.

- a. 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

1. CONTRACTOR agrees to waive all rights of subrogation against the OWNER for WORK performed under contract.
2. 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

2. Commercial General Liability (CGL), including products and completed operations, property damage, bodily injury and personal and advertising injury, **with no marine exclusions**, with limits no less than \$1,000,000 each occurrence and \$2,000,000 aggregate. (under Paragraph 5.2C.2 of the General Conditions) **This insurance policy is to contain, or be endorsed to contain, additional insured status for the CBJ, its officers, officials, employees, and volunteers.** If Additional insured status is provided in the form of an endorsement to the Contractor's insurance, the endorsement shall be at least as broad as ISO Form CG 20 10 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).

NOTE: If CGL policy includes "marine exclusions" CONTRACTOR shall carry a separate "Marine General Liability policy" with the limits noted above.

3. 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

This insurance policy is to contain, or be endorsed to contain, additional insured status for the CBJ, its officers, officials, employees, and volunteers 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.

Add the following paragraphs:

- C. BUILDERS RISK is not required for this project.
- F. Marine Protection and Indemnity \$1,000,000 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.
- D. All Subcontractors are required to secure and maintain the insurance coverages listed above, unless otherwise noted.
- E. If the CONTRACTOR maintains higher limits than the minimums shown above, the OWNER requires and shall be entitled to coverage for the higher limits maintained by the CONTRACTOR. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the OWNER.
- H. Policies shall also specify insurance provided by CONTRACTOR will be considered primary and not contributory to any other insurance available to the OWNER.
- I. Should any of the policies described above be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

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.

SGC 6.6 PERMITS, *Add* the following paragraph:

- D. A Right-of-Way Permit shall be obtained by the CONTRACTOR from the City and Borough of Juneau, Engineering Department prior to WORK within the Right-of-Way. The CONTRACTOR is responsible for coordinating all necessary inspections. All other provisions of this section remain in effect.
- E. 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.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

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 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: CBJ Downtown Waterfront
Corrosion Control Repairs
Contract No. DH18-027**

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:

Erich Schaal, Port Engineer
Erich.Schaal@juneau.org
Docks and Harbors Department
155 S. Seward Street
Juneau, Alaska 99801
FAX 907-586-0295

- () 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 Erich Schaal at Erich.Schaal@juneau.org. 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
Wage and Hour Administration and
P.O. Box 11149
Juneau, AK 99811-1149
907-465-4842
<http://labor.state.ak.us/lss/home.htm>

Erich Schaal, Port Engineer
City and Borough of Juneau
Docks and Harbors
155 S. Seward Street
Juneau, AK 99801
(907) 586-0292
Erich.Schaal@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 Facilities Corrosion Control Project as shown in the contract documents. The work includes installation of an impressed current cathodic protection system and electrical improvements.

1.3 SITE OF THE WORK

- A. The site of the WORK is in the vicinity of the Marine Park 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	April 30, 2018
Final Completion	May 6, 2018

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

SECTION 01010 - SUMMARY OF WORK

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 area is 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.
- 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.

SECTION 01010 - SUMMARY OF WORK

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

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 (Pay Item Nos. 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 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.

1.3 MARINE PARK IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM (Pay Item No. 13115.1) PRICE BASED ON LUMP SUM

- A. Measurement for payment for the Marine Park Impressed Current Cathodic Protection System 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. Concrete work required to complete the work in Section 13115 is presented in Sections 03301 "Structural Concrete" and 03302 "Concrete Sidewalk" and is considered incidental, so those costs should be included in Pay Item No. 13115.1.
- C. The Cathodic Protection System will require penetrations of sheet pile wall and of an adjacent manhole. The locations are shown in the Drawings, and the sleeve-seal system required to make these penetrations water-tight are specified in Section 16490 "Sleeve-Seal Systems for Cathodic Protection Conduit. This work is considered incidental, so these costs should be included in Pay Item No. 13115.1
- D. Payment for Marine Park Impressed Current Cathodic Protection System shall be made at the amount shown in the Bid Schedule under Pay Item No. 13115.1, which payment will constitute full compensation for all WORK described in Section 13115 "Sheet Pile Impressed Current Cathodic Protection," as shown on the Drawings and as directed by the ENGINEER.

1.4 REMOVAL OF UNFORESEEN STRUCTURES AND OBSTRUCTIONS TO BE ASSIGNED DURING THE WORK. PRICE ON A NEGOTIATED BASIS.

SECTION 01025 - MEASUREMENT AND PAYMENT

- 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

SECTION 01045 - CUTTING AND PATCHING

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 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.

SECTION 01045 - CUTTING AND PATCHING

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.
 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

SECTION 01070 - ACRONYMS OF INSTITUTIONS

BHMA	Builders Hardware Manufacturer's Association
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

SECTION 01070 - ACRONYMS OF INSTITUTIONS

SSPWC	Standard Specifications for Public Works Construction
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.

SECTION 01090 - REFERENCE STANDARDS

- 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 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 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

SECTION 01330 – CONTRACTOR SUBMITTALS

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.

- 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.

SECTION 01330 – CONTRACTOR SUBMITTALS

- 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 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."

SECTION 01330 – CONTRACTOR SUBMITTALS

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 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

SECTION 01330 – CONTRACTOR SUBMITTALS

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 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.

SECTION 01330 – CONTRACTOR SUBMITTALS

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.
 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)

SECTION 01330 – CONTRACTOR SUBMITTALS

(SUBSTITUTION REQUEST FORM – next page)

SECTION 01330 – CONTRACTOR SUBMITTALS

CBJ Docks and Harbors Division **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 _____ ☐ Accepted ☐ Accepted as Noted

Firm: _____ ☐ Not Accepted ☐ 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. The names and proof of qualifications/certifications for personnel required in paragraph 1.6 A of this Section.

SECTION 01350 – HEALTH AND SAFETY

- 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. Regulator Citations and Violations

- C. Certificates
 - 1. Confined Space Entry Permit
 - 2. Hot Work Permit
 - 3. CONTRACTOR Safety Self-Evaluation Checklist
 - 4. 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 drill, the operator, riggers, rigging and the drill's supporting structure.
- 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
 - 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.

1.5 CONTACTOR SAFETY SELF-EVALUATION CHECKLIST

SECTION 01350 – HEALTH AND SAFETY

- 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. Drilling rig operators shall be designated as qualified by a source that qualifies drilling rig operators (i.e., union, government agency, or organization that tests and qualifies drilling rig operators).

B. Personnel Duties

- 1. Site Safety and Health Officer / Superintendent
 - 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.

SECTION 01350 – HEALTH AND SAFETY

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.

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.

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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
 - 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.

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- 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.
- 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

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- g. Abrasive blasting
 - h. Coating application
 - i. Confined space
 - j. Hazardous energy control plan
 - k. Critical drilling 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.
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. 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.

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- 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.

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.
- 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

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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.

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.

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 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

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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.

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.

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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 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.

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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.

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.

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

B. 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 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.

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2. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department.
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.
- 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.

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- 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 INSPECTION AT PLACE OF MANUFACTURE

- A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER at the place of manufacture.
- B. The presence of the ENGINEER at the place of manufacturer, however, shall not relieve the CONTRACTOR of the responsibility for furnishing products, materials, and equipment which comply with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the ENGINEER.

1.3 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.

1.4 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.

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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 (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 elsewhere in the contract, after all street or roadway resurfacing has been completed. Re-

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

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 OWNER requirements of the affected pavement. 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 times 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 CONTRACTOR shall remove and, without unnecessary delay, temporarily replace or

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

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 the CONTRACTOR or a certified tree company under permit from the jurisdictional

SECTION 01530 - PROTECTION AND RESTORATION OF EXISTING FACILITIES

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 of 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.

1.7 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 an 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)
- C. State of Alaska Department of Environmental Conservation

SECTION 01570 – EROSION AND POLLUTION CONTROL

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

SECTION 01570 – EROSION AND POLLUTION CONTROL

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.

1.5 STORAGE AND PROTECTION

SECTION 01600 – MATERIALS AND EQUIPMENT

- 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:
 1. Written guarantees, where required.
 2. Maintenance stock items; spare parts, special tools, where required.
 3. Completed record drawings.
 4. Certificates of inspection and acceptance by governing agencies having jurisdiction.
 5. Releases from all parties who are entitled to claims against the subject Project, property, or improvement pursuant to the provisions of law.
 6. Completed Certificate of Compliance and Release for all contractors involved in the WORK. Forms are available from the OWNER. Submit the original signed documents to Carl Uchytel, Port Director.
- 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 the impressed current sheet pile cathodic protection system.
 - 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.

SECTION 01700 - PROJECT CLOSE-OUT

- 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.

SECTION 01700 – PROJECT CLOSE-OUT, PART 1 - GENERAL, Article 1.3, FINAL SUBMITTALS, Paragraph A. **Delete** Items 6, 7 and 8 and **replace with the following sub-paragraph:**

6. Compliance Certificate and Release, signed by the CONTRACTOR, shall be submitted to the Engineering Contract Administrator.

SECTION 01700 – PROJECT CLOSE-OUT, PART 1 – GENERAL, Article 1.3, FINAL SUBMITTALS. **Add the following paragraph:**

- C. Before final payment, the CONTRACTOR shall provide the Engineering Contract Administrator with clearance from the Alaska Department of Labor and Workforce Development 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 Section 00800 – Supplementary General Conditions.

SECTION 01700 – PROJECT CLOSE-OUT, PART 1 - GENERAL, **add the following Article:**

1.5 PROJECT SIGN ASSEMBLY REMOVAL

- A. The Project sign assembly shall be removed and the Project sign panel delivered to the CBJ Project Manager, as directed by the ENGINEER.
- B. No progress payments will be processed by the OWNER after the CONTRACTOR has been directed by the ENGINEER to remove and deliver the Project sign panel to the CBJ, until the Project sign panel has been received by the CBJ.

SECTION 01700 – PROJECT CLOSE-OUT, PART 1 – GENERAL. **Replace the COMPLIANCE CERTIFICATE AND RELEASE FORM with the following form:**

SECTION 01700 - PROJECT CLOSE-OUT

COMPLIANCE CERTIFICATE AND RELEASE FORM

PROJECT: CBJ Downtown Waterfront Corrosion Control Repairs
CONTRACT NO: DH18-027

The CONTRACTOR must complete and submit this to Erich Schaal, Port Engineer with respect to the entire contract.

Completed forms may 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 Drawings, 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 attached list of Subcontractors is complete (required from CONTRACTOR). The Contract Administrator was advised and approved of all Subcontractors before WORK was performed and has approved any substitutions 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 Contracts 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: Erich Schaal, Port Engineer, City and Borough of Juneau, Docks and Harbors Department, 155 South Seward Street, Juneau, AK 99801, contact at (907) 586-0397 or Erich.Schaal@juneau.org if we can be of further assistance or if you have any questions.

END OF SECTION

SECTION 01700 - PROJECT CLOSE-OUT

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01704 - FINAL CLEAN-UP AND SITE RESTORATION

PART 1 - GENERAL

- 1.1 DESCRIPTION. 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. 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.
- B. If the CONTRACTOR has obtained material from the Stabler Point Rock Quarry, the excavated area shall be cleaned up and any stipulations required by the Individual Mining Plan shall be completed. The management fees for materials shall be paid to CBJ prior to the CONTRACTOR requesting and/or receiving Final Payment.

END OF SECTION

SECTION 03301 - STRUCTURAL CONCRETE

PART 1 - GENERAL

- 1.1 DESCRIPTION. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and installing Portland cement concrete for structures in conformance with the Drawings and Specifications.
- 1.2 SUBMITTALS
- A. The Contractor shall review the Specification in its entirety and provide all required submittals to the ENGINEER prior to performing the associated WORK.
 - B. Submittals shall be compiled by the CONTRACTOR and submitted in accordance with Section 01300 Submittals.
 - C. On catalogue sheets with more than one item, clearly indicate which item shall be utilized.
 - D. Submittals for this Section shall include, but may not be limited to the following.
 - 1. Product Data: For each type of product.
 - 2. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - a. Indicate amounts of mixing water to be withheld for later addition at Project site.
 - 3. Material Certificates: For each of the following, signed by manufacturers:
 - a. Cementitious materials.
 - b. Admixtures.
 - c. Form materials and form-release agents.
 - d. Fiber reinforcement.
 - e. Curing compounds.
 - f. Floor and slab treatments.
 - g. Repair materials.
 - 4. Aggregates Material Test Reports from a qualified testing agency:

PART 2 - PRODUCTS

- 2.1 PORTLAND CEMENT
- A. Portland cement shall conform to the requirements of AASHTO M 85.
 - B. Unless otherwise permitted by the ENGINEER, the product of only one mill of any one brand and type of Portland cement shall be used on the Project.
- 2.2 FINE AGGREGATE. Fine aggregate for Portland cement concrete shall conform to the requirements of AASHTO M 6 with the following exceptions:
- A. Delete section on deleterious substances and substitute the following:
 - 1. The amount of deleterious substances shall not exceed the following limits:
 - a. Friable particles percent by weight 5 max.

SECTION 03301 - STRUCTURAL CONCRETE

- b. Coal and Lignite, percent by weight using a liquid of 1.95 specific gravity. Only material that is brownish black shall be considered as coal or lignite 0.5 max.
 - c. Material passing the No. 200 sieve, percent by weight 3.0 max.
 - B. Delete paragraph 4.2 of AASHTO M 6.
- 2.3 COURSE AGGREGATE. Coarse aggregate for Portland cement concrete shall conform to the requirements of AASHTO M 80, Class A, with the following exceptions:
 - A. Delete section on deleterious substances and substitute the following:
 - 1. The amount of deleterious substances shall not exceed the following limits:
 - a. Coal and Lignite, percent by weight (only material that is brownish black or black shall be considered coal or lignite.) 1.0 max.
 - b. Material passing the No. 200 sieve 1.0 max.
 - c. Thin elongated pieces, percent by weight.
 - d. (Length greater than 5 times average thickness) 15 max.
 - e. Sticks and roots, percent by weight 0.10 max.
 - f. Friable Particles, percent by weight 0.25 max.
 - g. Maximum loss from AASHTO T 96 shall be 50 percent.
 - h. Maximum loss from AASHTO T 104 shall be 12 percent.
 - B. Add the following: AASHTO T 104 shall be performed using sodium sulfate solution.
- 2.4 CURING MATERIAL
 - A. Curing material shall conform to the following requirements as specified:
 - 1. Burlap Cloth made from Jute Kenaf AASHTO M 182
 - 2. Sheet Material for Curing Concrete AASHTO M 171
 - 3. Liquid Membrane Forming Compounds AASHTO M 148 for Curing Concrete, Type I
 - B. The requirements specified in AASHTO M 148 covering "Liquid Membrane Forming Compounds for Curing Concrete" are modified by adding the following:
 - C. Liquid membrane forming compounds utilizing linseed oil shall not be used.
- 2.5 AIR ENTRAINING AGENTS. Air entraining admixtures shall conform to the requirements of AASHTO M 154.
- 2.6 MIXING WATER. Unless otherwise permitted in writing by the ENGINEER, all water shall be obtained from the Borough's potable water system.

SECTION 03301 - STRUCTURAL CONCRETE

2.7 SHIPPING AND STORAGE OF CEMENT

- A. Cement may be shipped from pretested approved bins. The cement shall be well protected from rain and moisture, and any cement damaged by moisture or which fails to meet any of the specified requirements shall be rejected and removed from the WORK.
- B. Cement stored by the CONTRACTOR for a period longer than 60 days in other than sealed bins or silos shall be retested before being used. Cement of different brands, types, or from different mills shall be stored separately.

2.8 COMPOSITION OF CONCRETE

- A. All Portland cement concrete shall be ready mix, provided by an approved plant regularly engaged in the production of concrete, unless otherwise authorized in writing by the ENGINEER. Ready mix concrete shall conform to the requirements of AASHTO M 157.
- B. The CONTRACTOR shall furnish the mix design to the ENGINEER for approval. The mix design shall be suitable for its intended use. Concrete shall be designed using an absolute volume analysis. The CONTRACTOR shall be responsible for having each mix laboratory tested. Prior to the start of production of any mix design, the CONTRACTOR shall submit test results and certifications for all materials, detailed mix design data and results of laboratory tests to the ENGINEER for approval. Approval by the ENGINEER will be based on apparent conformity to these specifications. It shall remain the CONTRACTOR's responsibility during production to produce concrete conforming to the mix design and the minimum acceptance criteria in the contract. When requested by the ENGINEER, the CONTRACTOR shall submit samples of all materials for verification testing. Production shall not commence until the mix design is approved by the ENGINEER.
- C. Unless otherwise specified the design mix shall meet the following:
 - 1. Minimum cement content 6 1/2 sacks (611 lb.) per C.Y.
 - 2. Maximum water/cement ratio 4.48 gal/sack (0.41 #/#)
 - 3. 28 day compressive strength (f'c) of 4000 psi.
 - 4. Slump 3" + 1"
 - 5. Entrained Air 4 to 7%
 - 6. Coarse Aggregate AASHTO M 43, Gradation No. 67
 - 7. Cement factors are based on 94 pound sacks
- D. The CONTRACTOR shall be responsible for producing and placing specification concrete with a cement content within a tolerance of 2%.
- E. The use of superplasticizers in the concrete mix to improve the workability of mixes with low water cement ratios will require prior written approval by the ENGINEER.
- F. The CONTRACTOR may, subject to prior approval in writing, use alternative sizes of coarse aggregate as shown in Table 1 of AASHTO M 43. If the use of an alternative size of coarse aggregate produces concrete which exceeds the permissible water cement ratio above, thereby requiring additional cement above that specified, no compensation will be made to the CONTRACTOR for the additional cement.

SECTION 03301 - STRUCTURAL CONCRETE

2.9 SAMPLING AND TESTING

- A. Field tests of all materials will be made by the ENGINEER when deemed necessary, in accordance with the applicable Specifications. When the results of the field tests indicate the material does not conform to the requirements of the Specifications, the re tests required by the ENGINEER shall be at the expense of the CONTRACTOR.
- B. Materials that fail to meet contract requirements, as indicated by laboratory tests, shall not be used in the WORK. The CONTRACTOR shall remove all defective materials from the site.
- C. Types and sizes of concrete specimens shall be in accordance with ASTM C 31. Additional slump tests and/or test cylinders may be required at the discretion of the ENGINEER. Should the analysis of any test cylinder not meet the preceding requirements of Article 2.10, Composition of Concrete, its representative concrete shall be removed and replaced at the CONTRACTOR's expense.
- D. Three copies of all test reports shall be furnished to the ENGINEER.

2.10 COLD WEATHER CONCRETE

- A. Concrete shall not be placed when the descending air temperature in the shade, away from artificial heat, falls below 40°F nor resumed before the ascending air temperature reaches 35°F, without specific written authorization. When the air temperature falls below 40°F, or is, in the opinion of the ENGINEER, likely to do so within a 24 hour period after placing concrete, the CONTRACTOR shall have ready on the job materials and equipment required to heat mixing water and aggregate and to protect freshly placed concrete from freezing.
- B. Concrete placed at air temperatures below 40°F shall have a temperature not less than 50°F nor greater than 70°F when placed in the forms. These temperatures shall be obtained by heating the mixing water and/or aggregate. Mixing water shall not be heated to more than 160°F.
- C. Binned aggregates containing ice or in a frozen condition will not be permitted nor will aggregates which have been heated directly by gas or oil flame or heated on sheet metal over an open fire. When aggregates are heated in bins, only steam coil or water coil heating will be permitted, except that other methods, when approved, may be used. If live steam is used to thaw frozen aggregate piles, drainage times comparable to those applicable for washed aggregates shall apply.
- D. When the temperature of either the water or aggregate exceeds 100°F, they shall be mixed together so that the temperature of the mix does not exceed 80°F at the time the cement is added.
- E. Any additives must have prior approval of the ENGINEER before being used.
- F. The use of calcium chloride is prohibited.
- G. When placing concrete in cold weather, the following precautions shall be taken in addition to the above requirements:
 - 1. Heat shall be applied to forms and reinforcing steel before placing concrete as required to remove all frost, ice, and snow from all surfaces which will be in contact with fresh concrete.

SECTION 03301 - STRUCTURAL CONCRETE

2. When fresh concrete is to be placed in contact with hardened concrete, the surface of the previous pour shall be warmed to at least 35°F, thoroughly wet, and free water removed before fresh concrete is placed.
 3. Freshly placed concrete shall be maintained at a temperature of not less than 70°F for 3 days or not less than 50°F for 5 days, when Type I or II cement is used, and not less than 70°F for 2 days or not less than 50°F for 3 days, when Type III cement is used. The above requirements are not intended to apply during the normal summer construction season when air temperatures of 40°F or higher can reasonably be anticipated during the two week period immediately following concrete placement, or until the concrete is no longer in danger from freezing.
- H. When temperatures below 20°F are not expected during the curing period and, in the opinion of the ENGINEER, no other adverse conditions, such as high winds, are expected, concrete temperatures may be maintained in thick concrete sections by retention of heat of hydration by means of adequately insulated forms.
- I. When, in the opinion of the ENGINEER, greater protection is required to maintain the specified temperature, the fresh concrete shall be completely enclosed and an adequate heat source provided. Such enclosure and heat source shall be so designed that evaporation of moisture from the concrete during curing is prevented. Precautions shall be taken to protect the structure from overheating and fire.
- J. At the end of the required curing period protection may be removed, but in such a manner that the drop in temperature of any portion of the concrete will be gradual and not exceed 30°F in the first 24 hours.
- K. For concrete placed within cofferdams and cured by flooding with water, the above conditions may be waived provided that the water in contact with the concrete is not permitted to freeze. Dewatering shall not be carried out until the ENGINEER determines that the concrete has cured sufficiently to withstand freezing temperatures and hydrostatic pressure.
- L. The CONTRACTOR shall be wholly responsible for the protection of the concrete during cold weather operations. Any concrete injured by frost action or overheating shall be removed and replaced at the CONTRACTOR's expense.

2.11 FORMS

- A. Forms shall be so designed and constructed that they may be removed without injuring the concrete.
- B. Unless otherwise specified, forms for exposed surfaces shall be made of plywood, hard pressed fiberboard, sized and dressed tongue and groove lumber, or metal in which all bolt and rivet holes are countersunk, so that a plane, smooth surface of the desired contour is obtained. Rough lumber may be used for surfaces that will not be exposed in the finished structure. All lumber shall be free from knotholes, loose knots, cracks, splits, warps, or other defects affecting the strength or appearance of the finished structure. All forms shall be mortar tight, free of bulge and warp, and shall be cleaned thoroughly before reuse.

SECTION 03301 - STRUCTURAL CONCRETE

- C. The forms shall be so designed that portions covering concrete that is required to be finished may be removed without disturbing other portions that are to be removed later. As far as practicable, form marks shall conform to the general lines of the structure.
- D. Metal ties or anchorages within the forms shall be so constructed as to permit their removal to a depth of at least 1 inch from the face without injury to the concrete. All fittings for metal ties shall be of such design that, upon their removal, the cavities which are left will be of the smallest possible size.
- E. Forms shall be inspected immediately prior to the placing of concrete. Dimensions shall be checked carefully and any bulging or warping shall be remedied and all debris and standing water within the forms shall be removed. Special attention shall be paid to ties and bracing and where forms appear to be braced insufficiently or built unsatisfactorily, either before or during placing of the concrete, the ENGINEER shall order the WORK stopped until the defects have been corrected.
- F. Forms shall be constructed true to line and grade. Clean out ports shall be provided at construction joints.
- G. The construction of concrete slabs with permanent steel forms shall conform to the requirements of this specification and as shown on the plans. Removable forms may be substituted for permanent metal forms with no adjustment in prices.
- H. All porous forms shall be treated with non-staining form oil or saturated with water immediately before placing concrete.

2.12 CONCRETE SEALER

- A. Concrete sealer shall be a penetrating sealer containing a silane or siloxane compound. The Sealer shall be water based and chemically react with the concrete surface. "CureCrete" Ashford Formula, or approved equal shall be used to seal concrete surfaces.

PART 3 - EXECUTION

3.1 GENERAL

- A. All concrete shall be placed before it has taken its initial set and, in any case, within 60 minutes after mixing. Concrete shall be placed in such manner as to avoid segregation of coarse or fine portions of the mixture, and shall be spread in horizontal layers when practicable. Special care shall be exercised in the bottom of slabs and girders to assure the working of the concrete around nests of reinforcing steel, so as to eliminate rock pockets or air bubbles. Enough rods, spades, tampers and vibrators shall be provided to compact each batch before the succeeding one is dumped and to prevent the formation of joints between batches.
 - 1. Extra vibrating shall be done along all faces to obtain smooth surfaces. Care shall be taken to prevent mortar from splattering on forms and reinforcing steel and from drying ahead of the final covering with concrete. Existing completed structures shall be protected from concrete overspray and any overspray shall be cleaned immediately.

SECTION 03301 - STRUCTURAL CONCRETE

- B. Concrete shall not be placed in slabs or other sections requiring finishing on the top surface when precipitation is occurring or when in the opinion of the ENGINEER precipitation is likely before completion of the finishing, unless the CONTRACTOR shall have ready on the job all materials and equipment necessary to protect the concrete and allow finishing operations to be completed.
- C. Troughs, pipes, or short chutes used as aids in placing concrete shall be arranged and used in such a manner that the ingredients of the concrete do not become separated. Where steep slopes are required, troughs and chutes shall be equipped with baffle boards or shall be in short lengths that reverse the direction of movement. All chutes, troughs, and pipe shall be kept clean and free of hardened concrete by flushing thoroughly with water after each run. Water used for flushing shall be discharged clear of the concrete in place. Troughs and chutes shall be of steel or plastic or shall be lined with steel or plastic and shall extend as nearly as possible to the point of deposit. The use of aluminum for pipes, chutes or tremies is prohibited. When discharge must be intermittent, a hopper or other device for regulating the discharge shall be provided.
- D. Dropping the concrete a distance of more than 5-feet or depositing a large quantity at any point and running or working it along the forms will not be permitted. The placing of concrete shall be so regulated that the pressures caused by wet concrete shall not exceed those used in the design of the forms.
- E. High frequency internal vibrators of either the pneumatic, electrical, or hydraulic type shall be used for compacting concrete in all structures. The number of vibrators used shall be ample to consolidate the fresh concrete within 15 minutes of placing in the forms. In all cases, the CONTRACTOR shall provide at least two concrete vibrators for each individual placement operation (one may be a standby), which shall conform to the requirements of these specifications. Prior to the placement of any concrete, the CONTRACTOR shall demonstrate that the 2 vibrators are in good working order and repair and ready for use.
- F. The vibrators shall be an approved type, with a minimum frequency of 5,000 cycles per minute and shall be capable of visibly affecting a properly designed mixture with a 1-inch slump for a distance of at least 18-inches from the vibrator.
- G. Vibrators shall not be held against forms or reinforcing steel nor shall they be used for flowing the concrete or spreading it into place. Vibrators shall be so manipulated as to produce concrete that is free of voids, is of proper texture on exposed faces, and of maximum consolidation. Vibrators shall not be held so long in one place as to result in segregation of concrete or formation of laitance on the surface.
- H. Concrete shall be placed continuously throughout each section of the structure or between indicated joints. If, in an emergency, it is necessary to stop placing concrete before a section is completed, bulkheads shall be placed as the ENGINEER may direct and the resulting joint shall be treated as a construction joint.
- I. The presence of areas of excessive honeycomb may be considered sufficient cause for rejection of a structure. Upon written notice that a given structure has been rejected, the rejected WORK shall be removed and rebuilt, in part or wholly as specified, at the CONTRACTOR's expense.

SECTION 03301 - STRUCTURAL CONCRETE

3.2 PUMPING CONCRETE

- A. Concrete may be placed by pumping if the CONTRACTOR demonstrates that the pumping equipment to be used will effectively handle the particular class of concrete with the slump and air content specified and that it is so arranged that no vibrations result that might damage freshly placed concrete. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced.
- B. When pumping is completed, the concrete remaining in the pipeline, if it is to be used, shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients. After this operation, the entire equipment shall be thoroughly cleaned. Slump tests shall be taken at the discharge end of the pipe.

3.3 CONSTRUCTION JOINTS

- A. Construction joints shall be located where shown on the plans or as permitted by the ENGINEER. Construction joints shall be perpendicular to the principal lines of stress and in general shall be located at points of minimum shear.
- B. At horizontal construction joints, gage strips 1 1/2 inches thick shall be placed inside the forms along all exposed faces to give the joints straight lines. Before placing fresh concrete, the surfaces of construction joints shall be washed and scrubbed with a wire broom, drenched with water until saturated, and kept saturated until the new concrete is placed.

3.4 ISOLATION JOINTS

- A. Isolation joints shall be located and formed as required on the plans.
- B. Open Joints. Open joints shall be placed in the location shown on the plans and shall be formed. The form shall be removed without chipping or breaking the corners of the concrete. Reinforcement shall not extend across an open joint, unless so specified on the plans.
- C. Filled Joints. Unless otherwise shown on the plans, isolation joints shall be constructed with pre-molded isolation joint filler with a thickness equal to the width of the joint.
- D. The joint filler shall be cut to the same shape and size as the adjoining surfaces. It shall be fixed firmly against the surface of the concrete already in place in such manner that it will not be displaced when concrete is deposited against it.
- E. Immediately after the forms are removed, the isolation joints shall be inspected carefully. Any concrete or mortar that has sealed across the joint shall be removed.
- F. Joint sealer for use in deck joints shall be of the type shown on the plans conforming to the requirements of Article 2.4 – Joint Fillers, of this Section. The faces of all joints to be sealed shall be free of foreign matter, paint, curing compound, oils, greases, dirt, free water, and laitance.
- G. Elastomeric Compression Seals. The joint seal shall be shaped as shown on the plans. It shall be installed by suitable hand or machine tools and thoroughly secured in place with a lubricant adhesive recommended by the seal manufacturer. The lubricant adhesive shall cover both sides of the seal over the full area in contact with the sides of the joint.
- H. The seal shall be in one piece for the full width of the joint. Any joints at curbs shall be sealed adequately with additional adhesive.

SECTION 03301 - STRUCTURAL CONCRETE

- I. The seal may be installed immediately after the curing period of the concrete. Temperature limitations of the lubricant adhesive as guaranteed by the manufacturer shall be observed.
- J. Strip Seals. Isolation joint strip seals shall be as shown on the plans, and composed of a steel extrusion and an extruded strip seal. The steel shall conform to ASTM A242 or A588. The seal shall be manufactured of material conforming to the requirements of PART 2 of this Section. Strip seals shall be one piece for the length of the joint.
- K. Installation of the isolation joints shall be in accordance with the manufacturer's recommendations, except that the joint opening shall be adjusted for the dimensions indicated on the Plans.
- L. Steel Joints. The plates, angles, or other structural shapes shall be accurately shaped at the shop to conform to the section of the concrete slab. The fabrication and painting shall conform to the requirements of the specifications covering those items. Care shall be taken to insure that the surface in the finished plane is true and free of warping. Positive methods shall be employed in placing the joints to keep them in correct position during the placing of the concrete. The opening at isolation joints shall be that designated on the plans at normal temperature.

3.5 ANCHOR BOLTS

- A. Anchor bolt assemblies conforming to the details shown shall be accurately secured in the forms in the positions shown on the plans, before any concrete is placed in the forms. The positions shall be checked and any adjustments made as soon as the concrete has been placed.
- B. When pipe sleeves or pre cast holes are provided, no water shall be allowed to freeze in the cavity. If frost causes cracks in the concrete, the entire placement shall be removed and replaced at the CONTRACTOR's expense. When anchor bolts are installed in pipe sleeves or pre cast holes, the cavity shall be completely filled with grout at the time the grout pads are constructed or at the time the bearing assemblies or masonry plates are placed.

3.6 PIPES, CONDUITS, AND DUCTS. Pipes, conduits, and ducts that are to be encased in concrete shall be installed in the forms by the CONTRACTOR before the concrete is placed. Unless otherwise indicated, they shall be standard, lightweight cast iron water pipe or wrought iron. They shall be held rigidly so they will not be displaced during concrete placement.

3.7 FINISHING CONCRETE SURFACES. All concrete surfaces exposed in the completed WORK shall receive an Ordinary Finish, as described below, unless otherwise noted on the Plans or in other Specification sections.

3.8 ORDINARY FINISH

- A. An Ordinary Finish is defined as the finish left on a surface after the removal of the forms, the filling of all holes left by form ties, and the repairing of all defects. The surface shall be true and even, free from stone pockets and depressions or projections. All surfaces that cannot be satisfactorily repaired shall be given a Rubbed Finish.
- B. The concrete in caps and tops of walls shall be struck off with a straightedge and floated to true grade. The use of mortar topping for concrete surfaces shall in no case be permitted.

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- C. As soon as the forms are removed, metal devices that have been used for holding the forms in place, and which pass through the body of the concrete, shall be removed or cut back at least 1 inch beneath the surface of the concrete. Fins of mortar and all irregularities caused by form joints shall be removed.
- D. All small holes, depressions, and voids, that show upon the removal of forms, shall be filled with cement mortar mixed in the same proportions as that used in the body of the WORK. In patching larger holes and honeycombs, all coarse or broken material shall be chipped away until a dense uniform surface of concrete exposing solid coarse aggregate is obtained. Feathered edges shall be cut away to form faces perpendicular to the surface. All surfaces of the cavity shall be saturated thoroughly with water, after which a thin layer of neat cement mortar shall be applied. The cavity shall then be filled with stiff mortar composed of 1 part of Portland cement to two parts of sand, which shall be thoroughly tamped into place. The mortar shall be pre shrunk by mixing it approximately 20 minutes before using. The length of time may be varied in accordance with brand of cement used, temperature, humidity, and other local conditions. The surface of this mortar shall be floated with a wooden float before initial set takes place and shall be neat in appearance. The patch shall be kept wet for a period of five days.
- E. For patching large or deep areas, coarse aggregate shall be added to the patching material. All mortar for patching on surfaces which will be exposed to view in the completed structure shall be color matched to the concrete. Test patches for color matching shall be conducted on concrete that will be hidden from view in the completed WORK and shall be subject to approval.

3.9 SIDEWALK SURFACES.

- A. Exposed faces of curbs and sidewalks shall be finished to true surfaces and conform to Section 3302 - Sidewalk. Concrete shall be worked until coarse aggregate is forced down into the body of the concrete and a layer of mortar approximately 1/4 inch thick is flushed on the top. The surface shall then be floated and a moderate broom finish applied.

3.10 CURING CONCRETE

- A. Water Curing
 - 1. All concrete surfaces shall be kept wet for at least seven days after placing if Type I or II cement has been used or for three days if Type III cement has been used. Concrete shall be covered with wet burlap, cotton mats, or other materials meeting the requirements of AASHTO M 171 immediately after final finishing of the surface. Materials shall be kept thoroughly wet for the entire curing period. All surfaces, if not protected by forms, shall be kept thoroughly wet, either by a continuous application of water sprinkling over the concrete surface or by the use of wet burlap, cotton mats, or other suitable fabric, until the end of the curing period. Water shall be applied a minimum of twice daily to maintain curing material in a saturated state. If wood forms are allowed to remain in place during the curing period, they shall be kept moist at all times to prevent opening at joints.

SECTION 03301 - STRUCTURAL CONCRETE

B. Membrane Curing.

1. Liquid membrane curing compound meeting the requirements of AASHTO M 148, Type I, may be permitted, subject to approval by the ENGINEER, except compounds utilizing linseed oil shall not be used. All finishing of concrete surfaces shall be performed to the satisfaction of the ENGINEER prior to applying the impervious membrane curing compound. The concrete surfaces must be kept wet with water continuously until the membrane has been applied. The manufacturer's instructions shall be carefully followed in applying the membrane, and in all cases the membrane curing compound must always be thoroughly mixed immediately before application. In case the membrane becomes marred, worn, or in any way damaged, it must immediately be repaired by wetting the damaged area thoroughly and applying a new coat of the impervious membrane curing compound. Membrane curing will not be permitted for concrete slabs that are to be covered with waterproof membranes, polymer modified concrete or at isolation joints.
2. All curing compounds must be fully removed from the concrete surface prior to applying the final concrete sealer.

3.11 CONCRETE SEALER

- A. The concrete sealer shall be used to seal and waterproof all exposed concrete surfaces. The sealer shall be applied as stated below or per the manufactures recommendations.
1. The curing compound shall be sprayed on the surface with a low-pressure sprayer as soon as the surface is firm enough to walk on immediately following the finishing operation.
 2. The entire surface shall be kept wet for 30 minutes by brooming excess material onto the dry spots or by re-spraying them immediately. No areas on the concrete surface shall be allowed to dry during the initial 30 minute period.
 3. As the curing compound begins to dry into the surface and becomes slippery, lightly sprinkle the surface with water to aid the penetration of the curing compound and to bring any alkali to the surface.
 4. After 30 to 40 minutes, squeegee or broom the surface to remove any excess curing compound and alkali or other impurities brought to the surface. All WORK required for the application of the curing compound shall conform to the manufacturer's recommendations.

3.12 BACKFILLING AND OPENING TO TRAFFIC

- A. The compressive strength shall be determined from informational test cylinders cured on the site under similar conditions of temperature and moisture as the concrete in the structure.

END OF SECTION

SECTION 03302 – CONCRETE SIDEWALK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The WORK under this Section includes providing all labor, materials, tools, and equipment necessary for furnishing and installing concrete sidewalk and other areas as noted and shown in the Plans and as shown on Standard Details.

1.2 SUBMITTALS

- A. All concrete submittals as described in Section 03301 - Structural Concrete
- B. Micro Synthetic Fiber Reinforcement- Product data sheets

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials shall conform to the requirements of Section 03301 – Structural Concrete, except "CureCrete" Ashford Formula, or approved equal, shall be used instead of the specified curing materials on curbs and gutters.
- B. Micro-synthetic Fiber Reinforcement
 - 1. Micro-synthetic fiber shall be used in curb and gutter as noted in the Plans.
 - 2. Micro Synthetic Fiber shall be 100 percent virgin homo-polymer polypropylene fibrillated fibers, containing no reprocessed olefin materials conforming to ASTM C 1116, Type III
 - 3. Micro-synthetic fiber shall be *Fibermesh 300* as manufactured by Propex *Operating Company* provided in ½-inch to 1 ½"-inch lengths or approved equal.

PART 3 - EXECUTION

3.1 METHODS OF CONSTRUCTION

- A. Sidewalk shall conform to the applicable requirements of Section 03301 –Structural Concrete, and as shown on the Drawings, except "CureCrete" Ashford Formula, or approved equal, may be used as a curing compound for curbs and gutters. Ashford Formula shall be applied per the following manufacturer's instructions.
 - 1. The curing compound shall be sprayed on the surface with a low-pressure sprayer as soon as the surface is firm enough to walk on immediately following the finishing operation.
 - 2. The entire surface shall be kept wet for 30 minutes by brooming excess material onto the dry spots or by re-spraying them immediately. No areas on the concrete surface shall be allowed to dry during the initial 30-minute period.
 - 3. As the curing compound begins to dry into the surface and becomes slippery, lightly sprinkle the surface with water to aid the penetration of the curing compound and to bring any alkali to the surface.
 - 4. After 30 to 40 minutes, squeegee or broom the surface to remove any excess curing compound and alkali or other impurities brought to the surface. All WORK required for the application of the curing compound shall conform to the manufacturer's recommendations.

SECTION 03302 – CONCRETE SIDEWALK

- B. All exposed or unprotected edges of seawalks shall be tooled to a radius of not more than one-half inch. After floating, trowel finish the entire surface using steel trowels. Final finish shall be obtained by brooming the surface, including the tooled edge, to a gritty finish after all free moisture has disappeared from the surface. Sprinkling of cement or sand for blotting will not be permitted.
- C. Isolation joints shall match existing or be constructed as shown in the Plans and shall be placed at locations shown on the Plans.
- D. Control joints shall be constructed as shown in the Plans, shall be tooled in intervals equal to the width of the original sidewalk or 8-feet on center maximum.
- E. All discolored concrete shall be cleaned at the CONTRACTOR's expense. The concrete may be cleaned by abrasive blast cleaning or other methods approved by the ENGINEER. Repairs shall be made by removing and replacing the entire unit between scoring lines or joints.

END OF SECTION

**SECTION 13115 – SHEET PILE IMPRESSED CURRENT
CATHODIC PROTECTION**

PART 1 -- GENERAL

1.1 SUMMARY

A. Description of the WORK:

1. This Section specifies the requirements for installing a complete and operational Impressed Current Cathodic Protection (ICCP) Systems for the land side face of the sheet piling shown on the Drawings and described in this Section.
2. The WORK includes all labor, materials, tools, and equipment necessary to provide an ICCP system to protect the shore side of the Marine Park sheet pile wall and its tie-backs.

B. General requirements:

1. The following items are included in the WORK:
 - a. Drill wells in a manner that assures no cross contamination of the ground water table.
 - b. Drill two wells to a depth of 75 feet.
 - c. Install well casing, if required to prevent collapse of the well during drilling and loading of the anodes and coke breeze.
 - d. Install ICCP anodes and vent pipe.
 - e. Install coke breeze.
 - f. Install a 10-foot cap.
 - g. Install anode junction boxes.
 - h. Run cables from junction boxes to rectifier.
 - i. Install sheet pile structure bond cables.
 - j. Provide AC power service and disconnect.
 - k. Install ICCP rectifiers.
 - l. Energize and adjust the ICCP system.
2. The WORK includes providing all necessary labor, materials, and documentation necessary to meet the minimum requirements described in Specifications, Drawings, and referenced standards for a complete and operational 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 ICCP 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. Verification of full electrical continuity between all sheet piles in the Marine Park sheet pile wall

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

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- D. Section 01400 – Quality Control
- E. Section 01570 – Erosion and Pollution Control
- F. Section 01600 – Materials and Equipment
- G. Section 01700 – Project Closeout
- H. Section 01704 – Final Clean-Up and Site Restoration
- I. Section 16490 – Sleeve-Seal Systems

1.3 REFERENCES

- A. Standards, Specifications, Recommended Practices, as 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
- D. ASTM International (ASTM):
 - 1. ASTM A36 (2014) Standard Specification for Carbon Structural Steel
 - 2. ASTM A53 (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 (2013) Standard Specification for Soft or Annealed Copper Wire
 - 9. ASTM B8-11 (2017) Standard Specification for Concentric Lay Stranded Copper Conductors, Hard, Medium-Hard or Soft
 - 10. ASTM B695-04 (2009) Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
 - 11. ASTM D149 (2013) Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
 - 12. ASTM D570 (2010) Standard Test Method for Water Absorption of Plastics
 - 13. ASTM D696 (2016) Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C with a Vitreous Silica Dilatometer

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- 14. ASTM D1248 (2016) Standard Specifications for Polyethylene Plastics Extrusion Materials for Wire and Cable
 - 15. ASTM D2444 (2010) Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup Falling Weight
 - 16. 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 (2014) The Use of Coupons for Cathodic Protection Monitoring Applications
 - 2. NACE SP0169 (2013) Control of External Corrosion of Underground or Submerged Metallic Piping Systems
 - 3. NACE TM0497 (2012) Measurement Techniques Related to Criteria for Cathodic Protection of Underground or Submerged Metallic Piping Systems
 - G. National Electrical Manufacturing Association (NEMA)
 - 1. NEMA ICS6 (1993, R2001, R2006, R2011, R2016) Enclosures
 - 2. NEMA TC14 (2015) Standard for Reinforced Thermosetting Resin Conduit and Fittings
 - H. National Fire Protection Association (NFPA)
 - 1. NFPA 70 (2017) National Electrical Code
 - I. Underwriters Laboratories (UL):
 - 1. UL 486A-486B (2011) Wire Connectors
 - 2. 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. 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.

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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.
 - 3. Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70 unless more stringent requirements are specified or indicated.
- 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.

1.6 SERVICES OF CORROSION ENGINEER

- A. The OWNER shall obtain the services of a Corrosion Engineer to supervise, inspect and test the installation of the ICCP systems. Corrosion Engineer refers to a licensed professional engineer with certification of licensing that includes education and experience in cathodic protection of buried 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 underground structures.
 - 1. The Corrosion Engineer shall instruct CONTRACTOR's personnel in all aspects of the installation of the ICCP system.
 - 2. Corrosion Engineer, or their Representative, shall be present on site during the installation of all ICCP sheet pile system components, and shall be required to certify the proper installation of same.
 - 3. Corrosion Engineer's Representative shall be certified by NACE International at the level of Cathodic Protection Technologist (CP2), and shall have not less than three years of experience with the installation and energizing of ICCP systems used to protect underground structures.

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.

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

B. Qualifications

1. Provide information on previous ICCP installation projects of similar scope. installed by the CONTRACTOR in the past 5 years. Include contact information for individuals or Owners' representatives of said projects for verification of previous projects, including name, address and phone number.

C. Work Plan

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

D. Manufacturer's Data

1. Provide manufacturer's literature including brochures, catalog cuts, and/or data sheets for anodes, coke breeze, anode centralizers, wire and cable, conduit, rectifiers, AC disconnects, exothermic weld materials and equipment, bond cables, anode junction boxes, shunt resistors, test station boards, test station hardware, wire identifiers and any other equipment to be installed.
2. Submit certification that the equipment and materials proposed meet the Specifications and the intent of the Specifications.

E. Personnel Certifications

1. Labor Certifications
 - a. Well driller's license
 - b. Welder qualifications/certifications
2. Welder Certifications
 - a. AWS D1.1:2010 welding certification or equivalent

F. Delivery and Storage

1. Deliver materials in original packaging, 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 care to avoid damaging during lifting or handling operations.

G. Shop Drawings

1. The CONTRACTOR shall submit shop drawings defining the completed structure, connection details and any unique interface conditions for review and approval by the

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ENGINEER. Shop drawings shall confirm the general arrangement shown on the Project Drawings and specifically include:

- a. Anode well locations with respect to the sheet piles and existing facilities at the project site.
- b. AC feed and service disconnect
- c. Rectifier locations
- d. Anode junction box locations
- e. Test coupon, reference electrode, and test station locations
- f. Conduit runs

H. Inspection and Testing

1. Inspection results indicating that manufacturer's performance criteria have been satisfied at each anode well.
2. Anode Well Data:
 - a. Drilling log for each anode well
 - b. Resistance logs for each anode installed
3. System Energizing Data:
 - a. Measurement of the sheet pile underground potentials and coupon potentials prior to and after energizing of anode wells (see 3.10 of this Section).
 - b. Measurement of adjacent piping potentials:
 - i. Potentials prior to and after energizing anode wells
 - ii. On-off stray current testing of adjacent buried utilities with the utility owner invited to attend the testing with prior notification of two working days before the testing is performed
4. A written record detailing activities in accordance with this section and Section 01400 – Quality Control as applicable.
5. Non-conformities shall be submitted to the ENGINEER.

I. 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. Locations of the new anode wells and rectifier
 - b. Grid locations of all anode wells, new conduit, boxes, and test coupons and stations
 - c. Location of any installed continuity cables or welds
 - d. Location of and repair of new coating being installed as part of this work.

J. Technical Documentation for Anode Wells and Rectifier:

1. Operations and maintenance manual
2. Complete schematic diagrams and parts lists.
3. Drawings showing external and internal dimensions of the unit, manufacturer's data sheets and Engineering technical data for all electronic and electrical components and mechanical parts of the unit.
4. Detailed information and test procedures for troubleshooting.
5. Wiring diagram: A complete schematic wiring diagram of the rectifier unit identifying all replaceable components or modules as well as all AC and DC power connections shall be provided with each rectifier unit. In addition, rectifier operating and maintenance instructions shall be provided. This information must be specifically for the unit being furnished on this project rather than of a generic type applicable to many different

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rectifiers and circuits. One set of these documents shall be mounted in a permanent holder inside a waterproof clear plastic envelope on the inside of each cabinet door.

K. Warranties

1. The manufacturer(s) of rectifier units shall provide an On-Site warranty for each of the units provided by said manufacturer, including all components therein, for a minimum of two (2) years from the date of final payment, against defective hardware components and/or workmanship. The term “On Site” shall mean that if any of the above components or units fails due to either defects in the components of the units or workmanship provided by the manufacturer in assembly of the units, the manufacturer shall make repairs to the units at their installed locations within 30 days of notification of deficiency. If On-Site repairs are not feasible, the CONTRACTOR shall be responsible to dismantle, package, ship, receive, re-install, and retest the rectifier units at no cost to the OWNER. If cathodic protection is discontinued for more than 30 days due to a defective rectifier unit, the CONTRACTOR, at no cost to the OWNER, shall provide a temporary rectifier unit capable of maintaining adequate levels of cathodic protection.
2. All product warranties not included in this Section shall be as indicated elsewhere within the Specifications.

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 equipment.
- 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.
 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.

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- 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 GENERAL

- A. Materials and material requirements specified herein are the minimum standard of quality that will be accepted.
- B. Each component of the ICCP system shall be supplied or warranted by a single manufacturer. Combining proprietary products from multiple vendors will not be permitted.
- C. Materials specified herein shall not preclude the use of equivalent materials, as described in Section 2.2.

2.4 PANEL BOARDS

- A. Panel boards for anode junction boxes shall be made of phenolic plastic 1/4-inch thick and sized to fit into the anode junction box, as indicated. Double-nutted brass bolts, nuts and lock washers shall be installed on the panel boards as indicated. All hardware installed on the panel boards shall be brass or bronze. Labels shall be installed to identify the anodes and piping under protection.

2.5 SHUNTS

- A. Shunts for impressed current anode systems shall be 0.001 ohm with 25 ampere capacity. Shunts shall be type SS as manufactured by Holloway or equal.

2.6 IMPRESSED CURRENT ANODES

- A. High Silicon Cast Iron (HSCI) Anode Option
 - 1. HSCI anodes shall be tubular type anodes, and shall be furnished with a lead wire attached by the manufacturer.
 - a. Attach the lead wire to the center of the anode with an anchor device suitably fastened to the wire.
 - b. Encapsulate each side of the connection with a minimum of 6-inches of high voltage insulating mastic and 4-inches of epoxy resin.
 - c. The anode lead wire attachment shall be able to withstand 900 pounds pull without loosening the wire or anchor device.
 - d. Provide each anode with a non-metallic end cap to prevent chaffing of anode lead wire.
 - e. The anode cables shall be of sufficient length to extend from the anode as placed in the wells to the ICCP junction box without splicing.
 - 2. The anodes to be installed in the deep well anode shall be 2-21/32 inch outside diameter with a minimum weight of 63 pounds and minimum surface area of 4.9 square feet.
 - a. Composition of the anodes shall conform to the following requirements:

Element	Percentage by Weight
Silicon	14.2 to 14.75%
Zinc	4.75 to 6.0%
Manganese	0.75 to 1.5%
Chromium	3.0 to 6.0%
Iron	Remainder

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- B. Mixed Metal Oxide Anode Alternate
1. MMO anodes shall be tubular:
 - a. 1" diameter by 39.4" long
 - b. A design life of 25 years at an output of 10 amps in a calcined coke ground bed.
 2. The primary anode shall be a continuous grade 1 titanium substrate, conforming to ASTM B-338, and ASTM B-265.
 3. The MMO anodes shall be provided by a firm that is regularly engaged in and has a minimum 5 years' experience in manufacturing and applying MMO coatings to titanium anode substrates.
 4. The titanium substrate coating shall be inert, dimensionally stable electrically conductive coating mixture of iridium and titanium oxides with small amounts of tantalum and ruthenium, 0.002 ohm-centimeter maximum resistivity, and be able of sustaining a current density of 10 amperes per square foot in an oxygen generating electrolyte at 150 °F for 20 years.
 5. The MMO coating shall be sintered to the titanium surface to maintain a minimum bond strength of 7000 psi when bent 180 degrees on to itself.
 6. The anode shall be equipped with a dual power feed from the rectifier terminal to the anode itself.
 7. The cable to anode connection shall be as follows:
 - a. Shall be provided a positive moisture seal
 - b. Shall have sufficient mechanical strength to support ten (10) times the total anode weight.
 8. The MMO anode shall be preassembled and delivered to the project site.
 9. The 1-inch polyethylene vent pipe shall be attached to the anode assembly and contained on the same reel as the anode, so that it is installed along with the anode in the drilled hole.
 10. The anode cables shall be of sufficient length to extend from the anode as placed in the wells to the ICCP junction box without splicing.

2.7 CALCINED COKE BREEZE

- A. Backfill material for cast iron impressed current system anode alternate shall be calcined petroleum coke breeze with a resistivity of 25 ohm-cm or less when tested with an applied pressure of 2 pounds per square inch. The material shall conform to the following gradation requirements:

Sieve Size	Percent Passing
3/8	100%, minimum
1/8	5%, maximum

The calcined coke breeze for the mixed metal oxide anode alternate shall have a maximum particle size of 1.0 mm.

- B. The backfill used for the cast iron anode alternate shall have the following chemical properties:
- | | |
|-----------------|-----------------------------|
| Fixed carbon | 98.0% minimum total = <100% |
| Ash | 0.5% maximum |
| Sulfur | 5.0% maximum |
| Volatile matter | 1.0% maximum |
| Moisture | 1.0% maximum |
- C. The backfill for the mixed metal oxide anode alternate shall be 99.8 percent carbon, high grade, fine particle, with a bulk density of 74 lbs./cft, as manufactured by Loresco, SC-3, or Asbury, 251.

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2.4 ANODE VENT PIPING

- A. The impressed current system anode vent piping shall be chlorine-resistant, with a cloth cover over the vent pipe to prevent clogging of the perforations in the pipe. At a minimum, the vent piping shall have a pattern of openings 1.5” in length with a width of 0.006” in along the length of vent tube which is in the coke breeze backfill to provide venting ability. Each slot shall be placed 1” in circumferential distance from the preceding slot with longitudinal center-to-center spacing between slot layers of 6”. The perforated portion of the vent pipe shall include the entire active length of the anode, as shown in the details for either anode material alternative. The bottom of the vent pipe shall be capped to prevent intrusion of coke breeze into the pipe.

2.5 ANODE CENTERING DEVICES

- A. Centralizers shall be used for both anode options to laterally center the anodes in the holes. The centralizers shall be designed and fabricated by the Anode Supplier and shall be submitted to the ENGINEER for acceptance prior to use. The device shall be designed to provide easy adjustment and installation in the field.

2.6 CABLE AND WIRE

- A. Copper Wire:
 - 1. All cables shall be concentric-lay stranded conductors that meet the requirements of ASTM B8 Class B and are made from compressed, annealed and uncoated round copper wires that conforms to ASTM B3.
- B. Anode Cables:
 - 1. The lead wire attached to the anodes shall be minimum AWG No. 8 stranded, single conductor, copper and insulated for 600 volts.
 - 2. The primary insulation shall be an extruded layer of either:
 - a. Ethylene-chlorotrifluoroethylene (Halar™)
 - i. The average thickness shall be 20 mils.
 - ii. The minimum thickness at any point shall be not less than 90% of the specified average thickness.
 - iii. The insulation shall be applied tightly to the conductor and shall be free-stripping.
 - b. Polyvinylidene fluoride (Kynar™)
 - i. The average thickness shall be 20 mils.
 - ii. The minimum thickness at any point shall be not less than 90% of the specified average thickness.
 - iii. The insulation shall be applied tightly to the conductor and shall be free-stripping.
 - 3. The primary insulations shall be covered with an outer jacket of a minimum of 64 mils of ASTM D1248, high molecular weight polyethylene (HMWPE) that conforms to the requirements of ASTM D-1248 Type 1, Class A, Category 5, Grades E4 and E5, and Tensile Strength J1.
 - 4. The anode manufacturer shall conduct and report resistance tests performed on each anode wire connection to assure the finished connection does not exceed 0.004 ohms.
 - a. These resistance tests shall be performed with a Kelvin bridge circuit or equal. All anode wire connections that have a resistance value of greater than 0.004 ohms shall require replacement by the anode supplier prior to shipment.
 - b. An accurate record of tests shall be submitted by the anode supplier to the ENGINEER. The records shall include, as a minimum, three copies of the following information:

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- i. Anode numbering system to identify anode under test
 - ii. Anode wire length
 - iii. Resistance value as indicated by test
 - iv. Test equipment
 - v. Test method
 - 5. The anode supplier shall mark the reel holding the anode wire for shipment to the job site with the same anode numbering system used on the test records and the total length of attached anode wire.
 - 6. Anode wires shall be of one continuous length without splices from the anode connection to the respective Junction Box as indicated. Anode wires with the attached anode shall be shipped to the job site with the wire wound on a reel. The minimum core diameter of the reel shall be 5 1/2 inches. The anode wire insulation shall be free of surface damage such as nicks, abrasions, scratches, etc., in all respects throughout the entire length of the wire. Precaution shall be taken during fabrication, transportation and installation of the anodes to see that the wire is not kinked or sharply bent. Bends sharper than 2 1/2 inches in radius are not permissible.
 - 7. All wires used for corrosion monitoring/cathodic protection systems shall be visually inspected for any damage to the insulation immediately prior to and after installation by the CONTRACTOR. Any damage to the insulation will require replacement of the cable. Splicing of cables will not be permitted.
 - C. Test Station, Structure Bond and Continuity Cables:
 - 1. These shall be stranded, single conductor, copper and insulated for 600 volts.
 - 2. They shall have HMWPE insulation that conforms to the requirements of ASTM D-1248 Type 1, Class A, Category 5, Grades E4 and E5, and Tensile Strengths J1 and J3. The copper wire shall conform to ASTM B3 and ASTM B8.
 - 3. All wires present in test stations, bond boxes, or junction box shall have a cable identification tag clearly identifying wires terminating and the cable's purpose.
 - D. Coupon and Reference Electrode Cables:
 - 1. These shall be stranded copper three conductor cables with a RHW/USE2 insulation.
 - 2. All lead wires terminating at the test station shall have a cable identification tag clearly identifying the cable's purpose.
 - E. Cable and Wire Identification:
 - 1. Shall be 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. Shall be UL 486A-486B, solderless copper lugs.
- 2.7 JUNCTION BOXES, BOND BOXES, TEST STATIONS, AND PULL BOXES
- A. Anode junction boxes, bond boxes, and pull boxes 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 covers shall be latch-type with provision for securing with a padlock. 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. The cathodic protection test station and well traffic box shall be a flush-mounted, below grade terminal manufactured to withstand water and street traffic. The test station shall be one of the following or as approved by the ENGINEER:

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Manufacturer	Model	Lid	Ring	Terminal	Support
Bingham & Taylor	P4HHD	Included	Included	Included	4' min, flared bottom
T. Christy Enterprises	G05T Valve Box	G5C-CP black cast iron	G05TGR10	Not included	n/a
Cott Manufacturing	Street Fink	Included black	Included	Include	CottPipe PE 4' min

- C. Provide terminal boards for anode junction boxes, bond boxes, and test stations (if not included in manufactured unit) made of minimum of 0.25" NEMA Grade LE micarta linen laminated phenolic sheet, 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.

2.8 SHEET PILE AND MANHOLE PENETRATIONS

- A. Conduit penetrations of the sheet pile wall and existing manhole are shown in the Drawings.
- B. These penetrations shall be made water tight using modular sleeve-seal systems as shown in the Drawings and in Section 16490 – Sleeve-Seal Systems for CP Conduit.

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-glass Grade "A" 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 the following mechanical strength when tested in accordance with referenced test method:

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

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Impact resistance:		ASTM D2444
Size:	2"	>120 lbf
	3"	>140 lbf
	4"	>160 lbf
	5"	>200 lbf
	6"	>250 lbf

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

2. Conduit/Cable Support

- a. Provide seismic support for conduit. Spacing shall meet the requirements of the NEC and CBJ code.
- b. Fasten conduit supports to concrete with non-metallic pipe straps or non-metallic hangers. Fasten conduit supports to sheet piles using PVC-coated galvanized steel pipe straps.
- c. 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.
- d. Anchor conduit supports and boxes along concrete surfaces using adhesive anchors. The anchors shall 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:
- i. Seismic tension and shear
 - ii. Long term creep at elevated temperatures
 - iii. Static loading at elevated temperatures
 - iv. Damp and water-filled holes
 - v. Freeze-thaw conditions
 - vi. Critical and minimum edge distance and spacing
- e. 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 to 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.

3. Conduit Bushings

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

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2.10 EXOTHERMIC WELD KITS

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

2.11 BITUMASTIC COATING

- A. Bitumastic coating shall be TC Mastic, as manufactured by Tapecoat Company, Bitumastic 50 as manufactured by Carboline Inc., or approved equal.

2.12 PEDESTAL-MOUNTED AIR-COOLED RECTIFIER

- A. Rectifiers shall have a 120/240 Volt AC input and have a rated DC output of 40 volts 10 amperes. Rectifiers shall be pedestal-mounted. Rectifiers shall be manufactured by Universal, or an approved equal.
- B. Rectifiers shall be supplied with a set of slide out racks for the transformer and diode stacks.
- C. Rectifiers shall meet the following specifications: NEMA Pub. No. MR 20 1958, reaffirmed by NEMA 1971 and 1975. Rectifiers can operate continuously at the rated output current at any voltage from zero to 100 percent without damaging any rectifier components. Full rated DC output voltage shall be adjustable by not less than 20 equal steps from approximately 5 percent of rated voltage to full rated output. This adjustment may be accomplished with studs and link bars or tap switches. If tap switches are used, they shall not carry over 50 percent of the nominal current rating assigned by the manufacturer. Rectifiers shall be designed to operate continuously at rated maximum voltage and current in ambient temperature of 40 degrees °C (104 °F) without damage to the rectifier components. Cooling shall be accomplished by natural convection. Fan cooling is not acceptable for unattended equipment.
- D. All rectifiers shall have overload protection. Protection from overload on the input shall be accomplished by molded case, fully magnetic circuit breakers on the incoming power lines. These circuit breakers shall hold at 100 percent of load and may trip between 101 percent and 125 percent of rated load. They shall trip at 125 percent of rated load. The trip point shall be unaffected by changes in ambient temperature. Trip handles of individual pole breakers shall be mechanically linked to open all lines when an overload occurs. Units shall be equipped with silicon stacks. Overload protection shall be provided by a quick-opening fuse in the transformer secondary.
- E. Voltage surge protection for units equipped with silicon stacks shall be supplied by AC and DC lightning arresters and metal oxides varistors across all secondary lines to the stack and across the DC output of the rectifier. The metal oxide varistors must fire before the voltage surge reaches the peak inverse voltage rating of the diodes used in the stack. Transformers shall be isolation type with a grounded electrostatic shield between the primary and secondary windings. Dielectric strength of all insulating materials shall not be less than 2,000 volts RMS as tested for one minute and applied between windings and the transformer core. Magnetic wire insulation and layer insulation shall be rated no less than 155 degrees C. Magnetic wire insulation shall not show signs of softening or crazing after 24 hours immersion in any of the following chemicals: Naphtha, Toluene, Ethyl Alcohol, Trichloro Ethylene, Styrene Polyester, Butyl Acetate, Mild Acids, or Acetone. Impregnating varnish used shall meet the standards for 155 degrees C when tested

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according to AIEE test procedures. The transformer shall be preheated before dipping and baked after dipping. The transformer temperature rise, as measured by thermocouples within the transformer, shall not exceed 85 degrees C. The transformer efficiency shall not be less than 85 percent. The transformer voltage regulation shall not exceed 3 percent from full rated load to 1/4 of rated load when measured in accordance with the procedure described in MR 20 1958. Chokes and reactors shall meet the requirements listed for transformers.

- F. Silicon stacks shall be equipped with silicon diodes rated a minimum of 800 peak inverse volts. Heat sinks shall be sized to keep diode junction and case temperatures from exceeding 100 °C (212 °F) or under 40 °C (104 °F) ambient temperature conditions.
- G. Separate voltmeter and ammeter shall be provided for monitoring rectifier output. Minimum meter width shall be 3-1/2 inches round or rectangular with minimum scale length of 2 7/8 inches. Meter movement shall be jewel and pivot D'Arsonval type or digital type. Taut band meters are not acceptable because of a tendency to break when jolted during shipment. Meter accuracy shall be a minimum of plus or minus 2 percent of full scale at 80 degrees F and shall be temperature compensated to vary no more than 1 percent per 10 degrees F temperature variation. Scale faces shall be metal or plastic. Ammeter shunt shall be block type mounted on the front panel for easy access. Current and millivolt ratings shall be clearly stamped on the shunt. Shunt accuracy shall be at least plus or minus 1 percent.
- H. Electrical tests shall be performed by the manufacturer and recorded as listed below:
 - AC Volts Input
 - DC Amperes Input
 - Apparent Watts Input
 - True Watts Input
 - Power Factor
 - DC Volts Output
 - DC Amperes Output
 - DC Watts Output
 - Conversion Efficiency
 - Dielectric Strength
 - Transformer Primary to Ground
 - Transformer Secondary to Ground
 - Transformer Primary to Secondary
 - Stack AC to Ground
 - Stack DC to Ground
 - Ripple Voltage at Full Output
- I. Rectifier shall be baked enamel-coated heavy gauge steel or anodized aluminum swing open case, with a 10-inch standard leg support for pedestal mounting.

PART 3 -- EXECUTION

3.1 GENERAL

A. Site Verification of Conditions

- 1. CONTRACTOR shall examine the areas and conditions under which installation of the ICCP systems shall be performed. Where existing conditions will create impediments to installation of the ICCP systems as described in these specifications and as shown on the drawings, the CONTRACTOR shall notify the ENGINEER.

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2. The CONTRACTOR shall correct conditions detrimental to timely and proper execution of the WORK, subject to approval by the ENGINEER.
3. Immediately notify the Owner's Representative of any conditions that will delay the WORK.

3.2 ELECTRICAL WORK

- A. Electrical work related to the installation of the ICCP systems shall be performed by a licensed electrical contractor. The CONTRACTOR shall obtain any permits required for installation of AC Services and rectifiers.

3.3 ANODE WELL INSTALLATION

- A. The CONTRACTOR shall obtain and pay any fees associated with permits required for well drilling. The CONTRACTOR shall log the well in accordance with local and State agency requirements.
- B. Anodes shall be installed in the anode wells at the locations indicated on the drawings. If conditions in the field require relocation of the anode wells, alternate locations shall be approved by the ENGINEER.
- C. All drilling shall be done in strict conformance with State of Alaska regulations relative to the classification, construction and sealing of wells. The CONTRACTOR shall provide a grout seal for a minimum of 50 feet.
- D. The uppermost 10 feet of the deep anode well shall be excavated using vacuum excavation to minimize the risk of any damage to existing utilities, piping or other buried structures which may not be precisely located in advance of the drilling. Following excavation of the uppermost 10 feet, the remaining 90 feet shall be drilled using a rotary drill rig using circulating (water based) drilling mud. The CONTRACTOR shall select the type and consistency of drilling fluids to be consistent with the existing soil characteristics. Holes shall be drilled to maintain a minimum nominal diameter of 10 inches. The well shall be drilled to the minimum depth indicated on the drawings and shall be straight and plumb.
- E. Depending upon local soil conditions, the CONTRACTOR may elect to install a casing in the well. Regardless of whether the CONTRACTOR elects to install a casing, the CONTRACTOR will be responsible for maintaining the well and protecting it from collapse.
- F. Drilling mud may be circulated through a portable sump or through a sump dug at the site. If a dug sump is used, it shall be emptied and backfilled upon completion. Backfilling shall be such that the sump is safe for vehicle traffic without settling. Use standard techniques (trough and vacuum truck) to capture and contain the drilling fluids, mud and cuttings at the top of the hole. Drilling mud and cuttings shall be disposed of by the CONTRACTOR, at a suitable site, in accordance with State and Local regulations, at no additional cost to the Owner. The CONTRACTOR shall have testing performed on the mud and cuttings to determine whether there are hazardous materials present in the material removed from the well. If the mud and cuttings are determined to contain hazardous materials, the CONTRACTOR shall dispose of the materials at an approved site and shall provide bills of lading and chain of custody reports to the Owner to document that the materials have been properly disposed of at the CONTRACTOR's expense. The CONTRACTOR shall ensure that no spillage of mud or other drilling spoils occurs and that no materials enter the adjacent waters.

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- G. The CONTRACTOR shall log the well, maintaining a description of the type of geological formations encountered during the drilling. Typed copies of the well log shall be submitted to the ENGINEER.
- H. When the well has been drilled to the specified depth, and in the presence of the Owner's representative, fresh water shall be circulated from the bottom of the hole to clear the well of drilling mud and cuttings. The well shall be flushed until the fluid is thinned as much as possible without danger of the well collapsing. The well shall be maintained full to the top with fresh water throughout the entire loading operation. Preparation of the well and loading of the anodes and other equipment in the well shall be done in the presence of the ENGINEER. A minimum of 24 hours' notice shall be given to the ENGINEER prior to loading of the anodes. Loading of the well shall commence early enough in the day to ensure completion of all loading and backfilling during regular work hours.
- I. The contractor shall measure and record the anode resistance during loading of the anode wells. Resistance measurements shall be taken using one of the anodes. The anode lead wire shall be marked in 5 foot increments, for a total length equal to or greater than the maximum depth of the well. As the anode is lowered into the well, determine the resistance by impressing a minimum 12-volt DC current between the anode and a well-grounded structure such as the structure to be protected. Lower the anode into the well and measure the voltage and current output of the DC power supply at 10 foot increments. Record the data and provide a copy along with the well log.
- J. Discrete anode assemblies with centralizers attached shall be attached to the vent pipe, in segments, and lowered into the hole supported by the vent pipe. Once the anode has been placed at the specified depth, it shall be securely fixed in place by tying the anode lead wire to a rack or other device to ensure that it remains at the specified depth. The device to which the anode lead wire is attached shall be smooth and round and have a diameter of not less than 5-1/2 inches to prevent kinking or sharp bending of the anode wire.
- K. Anode lead wires shall be visually inspected to ensure that the anode lead wire and insulation is free of damage resulting from abrasion or other damage as the anode is lowered into place. Anodes with damaged lead wire shall be rejected and replaced at the CONTRACTOR's expense. Splices or other repair of anode lead wires shall not be allowed along any portion of the wire from the top of the anode to the termination point in the anode junction box or rectifier. If an anode must be retrieved from the well, the entire length of wire shall be inspected for damage by the ENGINEER. Anodes or wire that have been damaged shall be replaced at the CONTRACTOR's expense.
- L. The vent pipe shall be installed along with the first anode to be placed in the well by attaching the vent pipe to the anode centralizer using a stainless steel clamp. The Engineer will inspect and approve the vent pipe attachment prior to lowering the anode/vent pipe assembly into the well. The CONTRACTOR shall insure that drilling mud, coke breeze or concrete is prevented from entering the vent pipe during placement of the anodes, backfilling of the well or installation of the seal.
- M. Anodes shall be installed prior to installation of the coke breeze backfill. No anodes shall be backfilled until the ENGINEER has inspected the placement of the anodes and given permission for commencing with backfilling. Coke breeze shall be placed in the anode well by pumping. Installation of the coke breeze shall be done in a manner to ensure that the coke breeze does not bridge or block the well. The well shall be kept full of water during placement of the coke breeze. The top of the well shall be kept free of floating coke breeze particles.

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Settling of the coke breeze shall be confirmed by decreasing resistance between the anode and the structure as determined by the voltage and current readings taken during placement of the coke breeze and described in these specifications. The CONTRACTOR shall record the current output of each anode on the same form as the initial current output of the anode. After coverage of the top anode with coke breeze has been verified, sufficient coke breeze shall be added to ensure that 5 feet of coke breeze is present at the top of the uppermost anode.

- N. Once the coke breeze has been installed and settled, 5 feet of sand shall be placed above the coke breeze column. The upper end of the well shall be filled with pre-mixed grout, in accordance with State and local requirements for sealing of wells, up to a depth of 3 feet from the top of the well. The uppermost 3 feet of the well shall be filled with round drain rock. The drain rock shall be 3/4 to 1/2-inch diameter and thoroughly washed to ensure removal of sand and fines. Backfilling or sealing of the well above the coke breeze column shall begin no sooner than 30 minutes, nor later than 24 hours after the anode current measurements have been performed and indicate that the upper anode has been covered and the coke breeze has settled. Once backfilling has begun, it shall continue until the hole is filled with grout. The backfilling of the upper 3 feet shall be performed after the grout has set.
- O. A concrete traffic box, see 2.7.B, shall be set at the top of the anode well. From the anode well, the anode lead wires shall be run to the junction box location, with cable identifiers attached to the anode wires. The anode vent pipe shall be terminated in the traffic box as indicated on the drawings.

3.4 NEGATIVE CONNECTION TO SHEET PILES

- A. The negative connection to the steel sheet piles shall be made using exothermic weld equipment. The negative connection shall run from the sheet pile to the anode junction box or rectifier. Cables shall be connected to the sheet piles at the approximate locations shown on the drawings. The exothermic weld connection can be made directly to the sheet pile or to a steel plate that is subsequently welded to the sheet piles. The surface to which the cable will be attached shall be clean and dry. Coating materials and surface rust shall be removed from the surface to be welded. The surface shall then be cleaned to white metal by grinding or filing. The use of resin-impregnated grinding wheels will not be allowed. After the weld has cooled, all slag shall be removed and the metallurgical bond shall be tested for adherence to the steel pile or plate, by striking the weld at an oblique angle with a 22-ounce hammer. All defective welds shall be removed and replaced. A bitumastic coating shall be applied to the weld, covering all exposed metal at the weld as well as copper wire exposed on the cable. A weld cap shall also be applied to the weld location.

3.5 ELECTRICAL CONTINUITY OF STEEL SHEET PILES

- A. The CONTRACTOR shall verify electrical continuity of the sheet piles. The testing may be performed using the "fixed cell - moving ground" technique, with a potential difference less than 5 millivolts indicating electrical continuity between sheet piles. The CONTRACTOR may submit an alternate testing procedure for approval by the ENGINEER. Any sheet piling which is found to be electrically discontinuous shall be made continuous by the installation of bond cables or spot welding of the sheet piles at the seams. Bond cables shall be a minimum of #6 AWG HMWPE stranded copper cable and shall be attached using exothermic welding.

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3.6 ENERGIZING AND TESTING

- A. Upon completion of the installation, final testing and energizing of the ICCP system shall be performed by, or at the direction of, the ENGINEER. The testing shall include, but not be limited to, measurement of voltage drops, potential measurements prior to and after energizing of the rectifiers, voltage and current output of rectifiers, setting of tap settings, adjustment of rectifiers and anode current outputs. The ICCP systems shall be adjusted to provide adequate levels of protective current in accordance with NACE SP0169.

3.7 REPAIR / RESTORATION

- A. The CONTRACTOR shall restore all surfaces that have been disrupted during installation of the ICCP system to their original condition. This includes paved areas, landscaped areas and railings (see Sections 01700 and 01704).

3.8 QUALITY CONTROL

- A. During installation, the OWNER will provide an inspector certified by NACE as a Cathodic Protection Technologist (CP3) or Cathodic Protection Specialist (CP4) to ensure that these specifications are being met.

3.9 WASTE MANAGEMENT

- A. General Requirement:
 - 1. Place materials defined as hazardous or toxic waste in clearly marked designated containers.
 - 2. The CONTRACTOR is responsible to maintain a clean construction including collection and containment of construction debris, packages, and waste.
 - 3. Drilling mud must be contained and properly disposed of.
- B. Containment/Disposal Requirements:
 - 1. Containment/Disposal Costs:
 - a. CONTRACTOR shall be responsible for all costs associated with containment and waste disposal that may result from the execution of this Project.

3.10 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 an inspector retained by the Owner and who is certified by NACE as a Cathodic Protection Technologist (CP3) or Cathodic Protection Specialist (CP4). The testing 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