MARINE PARK DECKOVER

Contract No. BE21-203

ADDENDUM TO THE CONTRACT

for the

MARINE PARK DECKOVER
Contract No. BE21-203

ADDENDUM NO.: **ONE**

CURRENT DEADLINE FOR BIDS:
June 8, 2022

PREVIOUS ADDENDA: NONE

ISSUED BY:

City and Borough of Juneau
ENGINEERING DEPARTMENT
155 South Seward Street
Juneau, Alaska 99801

PREVIOUS DEADLINE FOR BIDS:
June 1, 2022

DATE ADDENDUM ISSUED: May 24, 2022

The following items of the contract are modified as herein indicated. All other items remain the same. This addendum has been issued and is posted online. Please refer to the CBJ Engineering Public Purchase webpage at: https://www.publicpurchase.com/gems/juneau,ak/buyer/public/home

CLARIFICATIONS:

Question: *"Is Thermal Spray Metalizing an acceptable substitute coating for hot dip galvanizing for the steel weldments included in the project?"*

Response: No, Our past experience with Thermal Spray Metalizing indicates that it is not an equal product to hot dip galvanizing, particularly as it relates to the field repair of small damaged areas, which are a commonly required type of repair.

Question: *"Is a list of General Contractors available for the project?"*

Response: A list of General Contractors is not available for the project.

Question: *"Please provide a specification for the steel form deck required under cast-in-place concrete."*

Response: The steel form deck is a non-structural deck, which provides no structural support after the project is complete. The size should be based upon the Contractor's means and methods, the required span, and the amount of temporary shoring utilized by the Contractor. The Engineer reports that the product "ASC Steel Deck C1.4/CP-36 18 gauge deck" was considered during design. The Contractor should select a steel form deck section that will provide minimal deflection while the concrete cures based on the means and methods utilized.

Question: *"Please provide the specification for the Dolphin Capstan."*

Response: The Capstans shall be M-2000 Capstans, model C100-09-060 as Supplied by Superior-Lidgerwood-Mundy Corp. or approved equal.

The Capstan shall have the following features:

- 10hp motor w/ brake, 480 V / 3 Phase / 60 Hz.
- 8,226 pounds starting pull
- 4,113 pounds running pull
- 75 fpm (speed)
- 9 inches (diameter of head)

All components of the capstan shall be hot dip galvanized or coated with an approved heavy duty paint system rated for corrosive marine environments.
Capstan shall be furnished with 10 HP starter w/ Dead-Man Footswitch with 25 foot cordset.

PROJECT MANUAL:

Item No. 1 SECTION 00030 – NOTICE INVITING BIDS. DEADLINE FOR BIDS.

Change the date of the Deadline for Bids ***from*** June 1, 2022, ***to*** June 8, 2022. The time remains the same.

Item No. 2 SECTION 00030 – NOTICE INVITING BIDS. COMPLETION OF WORK.

Change the date of the Earliest Field Start ***from*** October 1, 2022, ***to*** October 18, 2022.

Item No. 3 SECTION 00500 – AGREEMENT. CONTRACT COMPLETION TIME.

Change the date of the Earliest Field Start ***from*** October 1, 2022, ***to*** October 18, 2022.

By: _____
Caleb Comas,
Contract Administrator

Total number of pages contained within this Addendum: 2

INFORMATION TO BIDDERS

for

MARINE PARK DECKOVER
Contract No. BE21-203

ISSUED BY:

City and Borough of Juneau
ENGINEERING DEPARTMENT
155 South Seward Street
Juneau, Alaska 99801

Date Issued: June 3, 2022

The following information is posted online. Please refer to the CBJ Engineering Public Purchase webpage at: https://www.publicpurchase.com/gems/juneau,ak/buyer/public/home. This is ***not*** an addendum.

CLARIFICATIONS:

QUESTION: *"On sheet E2, the last Luminaire on the right side of the page is shown as a dual head pole with a camera, also noted as existing. On site I noted this pole as a single head pole with no camera. Are there any mistakes with this depiction that may increase the scope of work?"*

RESPONSE: The noted luminaire was recently replaced and no longer includes a camera as stated.

QUESTION: *"On sheet E5, detail 3 shows the front and side installations of the capstan control post. It is not clear to me who is to provide the Capstan, Capstan control cabinet, & Foot Pedal storage. Is the intent for these boxes to be provided with the capstan or by the electrical contractors under division 26? If to be provided by the electrical contractor, can specifications be provided for these junction boxes for their sizes and contents?"*

RESPONSE: The provisions of products need to be coordinated within the Project Contract. The enclosure dimensions are dependent on the products within. They should be similar to those provided for other capstans at the CBJ docks.

QUESTION: *"Comparing Sheet E2 to E3, there are several of the (R) of the Cathodic Protection System junction boxes. The locations appear to be very similar between the two drawings. Can direction be given as to where the individual boxes are to be relocated from and to so that a scope of work can be established?"*

RESPONSE: Some of the junction boxes will conflict with the new deck. They need to be relocated to avoid such conflict, generally downward.

QUESTION: *"In regards to the Cathodic Protection System junction boxes, can the number of raceways, conductors and enclosed equipment associated with each boc be provided so that a scope of work can be established?"*

RESPONSE: Contractor review in the field is required.

QUESTION: *"On sheet E2, in the middle of the page there is a condulet that changes to an underground raceway and appears to terminate into a hondhole. This is not labeled as new, existing, relocated or to be removed. Is there a scope of work with this raceway or is it simply shown for reference?"*

RESPONSE: The condulet, conduit, and handhole are shown for reference.

QUESTION: *"On sheet E2, sheet note 1 directs us to remove the spare conductors. Can the number, & size of the conductors be provided along with the extent these conductors are to be removed back to?"*

RESPONSE: There are two or three No. 10 or 12 conductors. Their destination is unknown.

QUESTION: *"Can the make & model of the Switchboard-SWBDN be provided in order to identify the 40/3 breaker required for the new capstan?"*

RESPONSE: The switchboard was fabricated by RSE-SIERRA. The circuit breakers are manufactured by Siemens. The Contractor should confirm this in the field.

QUESTION: *"S101 - Distance between grids 6 & 7, grade break and existing dock references detail on transition to existing (S107). No distance is listed for figuring this section of dock."*

RESPONSE: The intent is to field fit from existing to new. For bidding purposes, the distance is approximately 6 feet. The contractor is responsible to adjust the final length of members in this section to field fit according to the plans and specifications.

QUESTION: *"Are the spin fin tips required to be galvanized as well?"*

RESPONSE: No, the spin tips are not required to be galvanized.

QUESTION: *"Reference Section 03420 Part 3.1.E - Can the dimensional tolerances be increased to those found in PCI MNL 135?"*

RESPONSE: Yes, this is acceptable, as panels will be ultimately buried with soil/landscaping so dimensional differences will not be a factor.

QUESTION: *"Reference Section 03420 Part 3.1.I – Can the sandblast requirement be waived or substituted with pressure wash?"*

RESPONSE: Yes, this is acceptable.

SECTION 00005 - TABLE OF CONTENTS

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT

SECTION 00005 - TABLE OF CONTENTS

A complete list of the contract drawings can be found on the Plans under DRAWING INDEX.

END OF SECTION

SECTION 00030 NOTICE INVITING BIDS

OBTAINING CONTRACT DOCUMENTS. The Contract Documents are entitled:

Marine Park Deckover
Contract No. BE21-203

The Contract Documents may be downloaded from the CBJ Public Purchase webpage at https://www.publicpurchase.com/juneau,ak. Instructions for the Public Purchase registration process can be found here https://juneau.org/engineering-public-works/bids-rfps

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 May 19, 2022, via teleconfernce**. The object of the conference is to acquaint Bidders with the project and bid documents. Prospective bidders intending to participate shall email contracts@juneau.org by 4:30 p.m., May 18, 2022.

DESCRIPTION OF WORK. The WORK generally consists of the demolition part of the Alaska Steamship Wharf timber dock, installing new structural members, steel piles, steel and wood stringers and decking to connect the Seawalk to the Marine Park. In addition, precast concrete panels will be installed to expand the landscaping of the park, with topsoil and seeing. Electrical will reconnect area lighting and add a power capstan to the dock dolphin.

ENGINEER'S ESTIMATE: Approximately $1,800,000.

COMPLETION OF WORK.

Work Description	Completion Date
Earliest Field Start	October 1, 2022
Substantial Completion Date	March 31, 2023
Final Completion Date	April 14, 2023

DEADLINE FOR BIDDER QUESTIONS: May 25, 2022, **No later than 4:30pm Alaska Time.**

DEADLINE FOR BIDS: Electronic bids must be received **prior to 2:00 p.m., Alaska Time on June 1, 2022,** or such later time as may be announced by addendum at any time prior to the deadline. **Bids will be opened at 2:15 p.m. on June 1, 2022,** via Teleconference. Bidders may attend this bid opening by calling 907-713-2140, with participant code 258358, unless otherwise specified.

SUBMISSION INSTRUCTIONS: Timely responses are accepted via Electronic Submission at Public Purchase, www.publicpurchase.com, the CBJ's eProcurement Provider. Bidders must register online prior to submitting a bid, it may take up to 24 hours for registration to be complete.

Late responses will not be accepted.

To Respond, Bidders must complete an online registration.

- Registration is a two-step process, registering with Public Purchase, and then registering with CBJ within Public Purchase.
- Get help registering using the Public Purchase Help Menu Tab.
- Register early to avoid missing the deadline, as Registration may take up to 24 hours to complete.

SECTION 00030 NOTICE INVITING BIDS

Registered Bidders may submit a Bid Schedule to Public Purchase by downloading the provided PDF solicitation documents, filling out the fields indicated, and uploading the document to Public Purchase.

SITE OF WORK. The site of the WORK is the seaward side of Marine Park and the Alaska Steamship Wharf. Access from land is very limited.

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

Caleb Comas, Contract Administrator
CBJ Engineering Department, 3rd Floor, Marine View Center
Email: caleb.comas@juneau.org
Telephone: (907) 586-0800 ext. 4196
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 provided as prescribed in Section 00100, Article 12, at the time of bid.

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

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

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

OWNER: City and Borough of Juneau

By: Matthew Creswell Acting Port Director — 5/3/2022
Carl Uchytil, 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;

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.

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.

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 by another acceptable submission method as specified in Section 00030, Notice Inviting Bids, and shall contain the following: Sections 00300, 00310 or other specified acceptable form of Bid Schedule, 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.

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.

Bid Bonds shall be submitted by being scanned and uploaded to Public Purchase along with the other required Bid documents. When a Bid security check is used, it must be received by the Purchasing Division prior to the Deadline for Bids. Bid security checks will be time and date stamped by the Purchasing Division, which will establish the official time of receipt.

In addition to uploading a scanned file of the Bid Bond, the original hardcopy Bid Bond shall be submitted and received by the CBJ Contracts Office by 2:00 p.m. Alaska Time no more than seven calendar days after Bid Opening.

In lieu of the original hardcopy Bid Bond submittal requirement, bidders who have a Surety 2000 Bid Bond ID may validate their Bid Bond with Surety 2000 within the Bid Bond Response Information Form in the Public Purchase bid page.

Bid security checks shall be submitted in a sealed envelope that clearly indicates: that a bid security check is enclosed, the name of the bidding firm, and the project name and number. The envelope must not reveal the check amount so that the final Bid price will not be known until the sealed bids are opened.

Bid security checks 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

Bid security checks delivered by **U.S. Postal Service** must be mailed to:

MAILING ADDRESS:
CBJ Docks and Harbors
Port Director
155 South Seward Street
Juneau, AK 99801

Mailing/delivery times to Alaska may take longer than other areas of the U.S. Late bid security checks may cause a Bid to be deemed non-responsive

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.

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.

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) 586-5215 for sales tax issues, Assessor's Office at (907)586-5215 for business personal property issues, or Collections Division at (907) 586-5215 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 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

Marine Park Deckover
Contract No. BE21-203

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
1	5/24/2022		

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.

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: 06/08/2022	Bidder: Trucano Construction Company, Inc. (Company Name)
Alaska CONTRACTOR's Business License No: 40854	By: Type text here (Signature)
Alaska CONTRACTOR's License No: CONE44	Printed Name: Jake Ritter
Telephone No: 907-586-2444	Title: Foreman
Fax No: 907-463-3810	Address: PO Box 20870 (Street or P.O. Box)
E-mail: trucano@alaskan.com	Juneau, AK 99802 (City, State, Zip)

9. TO BE CONSIDERED, ALL BIDDERS MUST COMPLETE AND INCLUDE THE FOLLOWING AT THE TIME OF THE DEADLINE FOR BIDS. **MISSING DOCUMENTS WILL DEEM THIS BID NON-RESPONSIVE:**

- Bid, Section 00300 (includes Addenda receipt statement)
- Completed Bid Schedule, Section 00310, or other acceptable form of Bid Schedule as specified in Section 00030, Notice Inviting Bids
- Bid Security (Bid Bond, Section 00320, or by a certified or cashier's check as stipulated in the Notice Inviting Bids, Section 00030)
- Contractor Financial Responsibility, Section 00370

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

- Subcontractor Report, Section 00360

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

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

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

END OF SECTION

SECTION 00310 - BID SCHEDULE

PAY ITEM NO.	PAY ITEM DESCRIPTION	PAY UNIT	APPROX. QUANTITY	UNIT PRICE		AMOUNT	
				DOLLARS	CENTS	DOLLARS	CENTS
1505.1	Mobilization	LS	All Req'd	302,665	00	302,665	00
1520.1	Temporary Security Fencing	LS	All Req'd	11,600	00	11,600	00
2060.1	Demolition and Disposal	LS	All Req'd	317,200	00	317,200	00
2702.1	Construction Surveying	LS	All Req'd	27,760	00	27,760	00
2718.1	Landscaping	LS	All Req'd	17,000	00	17,000	00
2726.1	24ft x 65ft Sloped Timber Dock	LS	All Req'd	403,000	00	403,000	00
2726.2	Dock Bullrail and Railing	LS	All Req'd	167,960	00	167,960	00
2726.3	Existing Timber Dock Modifications	LS	All Req'd	28,500	00	28,500	00
2896.1	Furnish 16-Inch Dia. x 0.500"t Steel Pipe Pile	LF	1,430	158	50	226,655	00
2896.2	Install 16-Inch Dia. Steel Pipe Pile	EA	17	12,500	00	212,500	00
2896.3	Furnish and Install Spin-Fin Pile Tips	EA	4	5,650	00	22,600	00
2896.4	Cofferdam Pipe Installation/Removal	LS	All Req'd	16,500	00	16,500	00
2900.1	Contingent Work - Pile Obstruction Removal	CS	All Req'd	$20,000	00	$20,000	00
3303.1	Concrete Sidewalk Repair	LS	All Req'd	30,442	00	30,442	00
3420.1	Precast Concrete Deck Panels	LS	All Req'd	158,551	00	158,551	00
3601.1	Cast-In-Place Concrete Deck	LS	All Req'd	83,491	00	83,491	00
3601.2	Concrete Separation Wall and Wall Extension	LS	All Req'd	64,380	00	64,380	00
3601.3	Cast-In-Place Concrete Transitions and Infill	LS	All Req'd	64,756	00	64,756	00
5120.1	Concrete Deck Substructure Pile Caps	LS	All Req'd	153,120	00	153,120	00
5120.2	Dolphin Capstan w/ Base and Control Post	LS	All Req'd	40,566	00	40,566	00
5120.3	Dolphin Access Gate	LS	All Req'd	15,020	00	15,020	00
16000.1	Electrical Demolition	LS	All Req'd	12,100	00	12,100	00
16000.2	Electrical Power and Lighting	LS	All Req'd	107,918	00	107,918	00

TOTAL BID: $2,504,284.00

COMPANY NAME: Trucano Construction Company, Inc.

SECTION 00320 - BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that Trucano Construction Co., Inc. as Principal, and Swiss Re Corporate Solutions America Insurance Corporation as Surety, are held and firmly bound unto **THE CITY AND BOROUGH OF JUNEAU** hereinafter called "OWNER," in the sum of Five Percent (5%) of the Total Amount Bid ---------- 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

Marine Park Deckover
Contract No. BE21-203

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 1st day of June, 2022

(SEAL) Trucano Construction Co., Inc.
(Principal)

By: _____
(Signature)

(SEAL) Swiss Re Corporate Solutions America Insurance Corporation
(Surety)

By: _____
(Signature)
Nicholas Fredrickson, Attorney-in-Fact

END OF SECTION

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION F/K/A NORTH AMERICAN SPECIALTY INSURANCE COMPANY ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION F/K/A WASHINGTON INTERNATIONAL INSURANCE COMPANY ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

SUSAN B. LARSON, SCOTT FISHER, MINDEE L. RANKIN, DEANNA M. FRENCH, RONALD J. LANGE, ELIZABETH R. HAHN, JANA M. ROY,
ROGER KALTENBACH, SCOTT GARCIA, DEREK SABO, GUY P. ARMFIELD, SCOTT McGILVRAY, ANDREW P. LARSEN, JOHN R. CLAEYS,
NICHOLAS FREDRICKSON, ANDREW KERSLAKE, ALEC GUMPFER, KATELYN COOPER and CHARLA M. BOADLE JOINTLY or SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

ONE HUNDRED TWENTY-FIVE MILLION ($125,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INS CORP CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INS CORP CORPORATE SEAL MISSOURI

By _____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By _____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 29TH day of APRIL, 2022

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook ss

On this 29TH day of APRIL, 20 22, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

YASMIN A. PATEL
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
May 28, 2023

Yasmin A. Patel, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 1 day of June, 20 22.

Jeffrey Goldberg, Senior Vice President &
Assistant Secretary of SRCSAIC and
SRCSPIC and WIC

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.***

	SUBCONTRACTOR ADDRESS	[1] AK Contractor License No. [2] AK Business License No.	[1] Contact Name [2] Phone No.	Type of Work	Contract Amount	✓ if DBE
1.	Compass Construction, LLC PO Box 33677 Juneau, AK 99803	[1] 236118 [2] 1023653	Masi Latu 907-723-6627	Concrete	$ 141,239.71	☐
2.	Alaska Electric, LLC PO Box 33835 Juneau, AK 99803	[1] CONE36153 [2] 956362	Chris Harmon 907-988-8080	Electrical	$ 94,848.00	☐
3.	J.W. Bean Professional Surveyors, Inc 1070 Arctic Circle Juneau, AK 99801	[1] AECC877 [2] 272554	John Bean 907-723-3610	Surveying	$ 14,800.00	☐
4.		[1] [2]			$	☐

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

Jake Ritter
CONTRACTOR, Printed Name

Trucano Construction Company, Inc.
COMPANY

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: BE21-203 Marine Park Deckover

As the General Contractor on this project, I intend to subcontract 20 % of the total value of this contract.

A. EXPERIENCE

1. Have you ever failed to complete a contract due to insufficient resources?
[X] No [ ] Yes If YES, explain:

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

None

3. Have you had previous construction contracts or subcontracts with the City and Borough of Juneau?
[X] Yes [ ] No

4. Describe your most recent or current contract, its completion date, and scope of work:
Statter Harbor Improvements Phase III (B) Contract No. DH20-021 - Completed 6/19/2021
Set piles, set docks, upland work and retaining wall.

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.

Hoonah Indian Assoc; transport housing units from corner bay to Hoonah; $397,500; March 2022
Goldbelt Corp; Pull and replace piles, weld zincs; $336,651; April 2022
Juneau Lighthouse Tours; Drive piles, place ramps and dock; $828,500; June 2022
Greens Creek Mine; Secure anchored barge, replace chain; $161,850; May 2022

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 [X] 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
Crane	1	Manitowoc	4100	150 Ton	250,000
Vibratory Hammer	1	HPSI	200		150,000
Impact Hammer	1	Delmag	D-19-32		150,000
Barge	1	Steel		900 Ton	700,000
Forklift	1	Ingersol	VR-90	7000#	45,000
Tug Boat	1	Steel	Single Screw	65'	900,000

2. Do you propose to purchase any equipment for use on this project not listed on table B-1?
[X] 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?
[X] No [ ] Yes If YES, describe type and quantity:

_____
_____
_____
_____
_____
_____

4. Is your bid based on firm offers for all materials necessary for this project?
[X] Yes [ ] No If NO, please explain:

_____
_____
_____
_____
_____
_____

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

Trucano Construction Company, Inc.	Jake Ritter, Foreman
Contractor	Name and Title of Person Signing
Signature	06/08/2022
	Date

SECTION 00500 - AGREEMENT

THIS AGREEMENT is between THE CITY AND BOROUGH OF JUNEAU (hereinafter called OWNER) and TRUCANO CONSTRUCTION COMPANY, INC. (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. BE21-203 Marine Park Deckover.**

The WORK is generally described as follows: The WORK generally consists of the demolition part of the Alaska Steamship Wharf timber dock, installing new structural members, steel piles, steel and wood stringers and decking to connect the Seawalk to the Marine Park. In addition, precast concrete panels will be installed to expand the landscaping of the park, with topsoil and seeing. Electrical will reconnect area lighting and add a power capstan to the dock dolphin.

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.

Work Description	Completion Date
Earliest Field Start	October 18, 2022
Substantial Completion Date	March 31, 2023
Final Completion Date	April 14, 2023

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 **$1,530.00** 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. BE21-203 Marine Park Deckover**, 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 Two Million Five Hundred Four Thousand Two Hundred Eighty-Four Dollars ($2,504,284.00), except as adjusted in accordance with the provisions of the Bid Documents.

ARTICLE 6. PAYMENT PROCEDURES.

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

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

ARTICLE 7. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK consist of this Agreement (pages 00500-1 to 00500-4, 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 00030-2, 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).
- Contractor's Financial Responsibility (pages 00370-1 to 00370-3, 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 00700-47, inclusive).
- Supplementary General Conditions (pages 00800-1 to 00800-6, inclusive).
- Alaska Labor Standards, Reporting, and Prevailing Wage Determination (page 00830-1).
- Permits (pages 00852-1to 00852-15, inclusive)
- Technical Specifications as listed in the Table of Contents.
- Drawings consisting of 31 sheets, as listed in the Table of Contents.
- Addenda numbers 1, 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.

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:

City and Borough of Juneau

(Signature)

By: Carl Uchytil, PE, Port Director
(Printed Name)

Date: 6/20/2022

CONTRACTOR:

Trucano Construction Company, Inc
(Company Name)

(Signature)

By: Jake Ritter, Foreman
(Printed Name, Authority or Title)

CONTRACTOR Signature Date: _____

OWNER's address for giving notices:

155 South Seward Street

Juneau, Alaska 99801

907-586-0292 (Telephone) 907-586-0295 (Fax)

CONTRACTOR's address for giving notices:

PO BOX 20870

Juneau, AK 99802

907-586-2444 (Telephone) 907-463-3810 (Fax)

trucano@alaskan.com
(E-mail address)

Contractor License No. CONE44

CERTIFICATE
(if Corporation)

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Board of Directors of the

Trucano Construction Company, Inc. a corporation existing under the laws of

the State of Alaska, held on June 15, 2022, the following resolution was duly passed and adopted:

"RESOLVED, that Jeffery Trucano, as Vice 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 15 day of June, 2022.

Secretary

(SEAL)

END OF SECTION

SECTION 00610 - PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we Trucano Construction Company, Inc (Name of Contractor) a Corporation (Corporation, Partnership, Individual)

hereinafter called "Principal" and Swiss Re Corporate Solutions America Insurance Corporation (Surety) of 1200 Main St. Suite 800 Kansas City, MO 64105-2478, State of Missouri hereinafter called the "Surety," are held and firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA (Owner) (City and State) hereinafter called "OWNER," for the penal sum of Two Million Five Hundred Four Thousand Two Hundred Eighty-Four dollars ($2,504,284.00) 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) 06/20/2022 pio, a copy of which is hereto attached and made a part hereof for the construction of:

Marine Park Deckover
Contract No. BE21-203

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.

Marine Park Deckover
Contract No. BE21-203

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

CONTRACTOR:

By: _____
(Signature)

Jake Ritter
(Printed Name)

Trucano Construction Company, Inc
(Company Name)

P.O Box 20870
(Street or P.0. Box)

Juneau, AK 99802
(City, State, Zip Code)

SURETY:

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

Date Issued: 06/20/2022 pio

Nicholas Fredrickson
(Printed Name)

Swiss Re Corporate Solutions America Insurance Corporation
(Company Name)

2233 112th Avenue NE
(Street or P.0. Box)

Bellevue, WA 98004
(City, State, Zip Code)

(Affix SURETY'S SEAL)

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

END OF SECTION

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION F/K/A NORTH AMERICAN SPECIALTY INSURANCE COMPANY ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION F/K/A WASHINGTON INTERNATIONAL INSURANCE COMPANY ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

SUSAN B. LARSON, SCOTT FISHER, MINDEE L. RANKIN, DEANNA M. FRENCH, RONALD J. LANGE, ELIZABETH R. HAHN, JANA M. ROY,
ROGER KALTENBACH, SCOTT GARCIA, DEREK SABO, GUY P. ARMFIELD, SCOTT McGILVRAY, ANDREW P. LARSEN, JOHN R. CLAEYS,
NICHOLAS FREDRICKSON, ANDREW KERSLAKE, ALEC GUMPFER, KATELYN COOPER and CHARLA M. BOADLE JOINTLY or SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

ONE HUNDRED TWENTY-FIVE MILLION ($125,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INS CORP CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INS CORP CORPORATE SEAL MISSOURI

By _____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By _____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 29TH day of APRIL, 2022

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook ss

On this 29TH day of APRIL, 20 22, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

YASMIN A. PATEL OFFICIAL SEAL Notary Public, State of Illinois My Commission Expires May 28, 2023

Yasmin A. Patel, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 20 day of June, 20 22.

Jeffrey Goldberg, Senior Vice President &
Assistant Secretary of SRCSAIC and
SRCSPIC and WIC

SECTION 00620 - PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we Trucano Construction Company, Inc (Name of Contractor) _____ a Corporation (Corporation, Partnership, Individual)

hereinafter called "Principal" and Swiss Re Corporate Solutions America Insurance Corporation (Surety) of 1200 Main St. Suite 800 Kansas City, MO 64105-2478, State of Missouri hereinafter called the "Surety," are held and firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA (Owner) (City and State) hereinafter called "OWNER," for the penal sum of Two Million Five Hundred Four Thousand Two Hundred Eighty-Four dollars ($2,504,284.00) 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) 06/20/2022 PD, a copy of which is hereto attached and made a part hereof for the construction of:

Marine Park Deckover
Contract No. BE21-203

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.

Marine Park Deckover
Contract No. BE21-203

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

CONTRACTOR:

By: _____
(Signature)

Jake Ritter
(Printed Name)

Trucano Construction Company, Inc
(Company Name)

P.O Box 20870
(Street or P.0. Box)

Juneau, AK 99802
(City, State, Zip Code)

SURETY:

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

Date Issued: 06/20/2022 pio

Nicholas Fredrickson
(Printed Name)

Swiss Re Corporate Solutions America Insurance Corporation
(Company Name)

2233 112th Avenue NE
(Street or P.0. Box)

Bellevue, WA 98004
(City, State, Zip Code)

(Affix SURETY'S SEAL)

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

END OF SECTION

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION F/K/A NORTH AMERICAN SPECIALTY INSURANCE COMPANY ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION F/K/A WASHINGTON INTERNATIONAL INSURANCE COMPANY ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

SUSAN B. LARSON, SCOTT FISHER, MINDEE L. RANKIN, DEANNA M. FRENCH, RONALD J. LANGE, ELIZABETH R. HAHN, JANA M. ROY, ROGER KALTENBACH, SCOTT GARCIA, DEREK SABO, GUY P. ARMFIELD, SCOTT McGILVRAY, ANDREW P. LARSEN, JOHN R. CLAEYS, NICHOLAS FREDRICKSON, ANDREW KERSLAKE, ALEC GUMPFER, KATELYN COOPER and CHARLA M. BOADLE JOINTLY or SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

ONE HUNDRED TWENTY-FIVE MILLION ($125,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INS CORP CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INS CORP CORPORATE SEAL MISSOURI

By _____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By _____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 29TH day of APRIL, 2022

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook ss

On this 29TH day of APRIL, 20 22, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

YASMIN A. PATEL OFFICIAL SEAL Notary Public, State of Illinois My Commission Expires May 28, 2023

Yasmin A. Patel, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 20 day of June, 20 22.

Jeffrey Goldberg, Senior Vice President &
Assistant Secretary of SRCSAIC and
SRCSPIC and WIC

TRUCCON-02 DROBERTS

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/14/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Hub International Northwest LLC 301 Seward Street Juneau, AK 99801	PHONE (A/C, No, Ext): (907) 586-2414	FAX (A/C, No): (907) 789-4363
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Alaska National Insurance Company	38733
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED

Trucano Construction Company
3560 N. Douglas Hwy.
Juneau, AK 99801

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE [X] OCCUR	X	X	22ALS03427	1/1/2022	1/1/2023	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
	X Liquor Liability						MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY [ ] PRO-JECT [ ] LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 2,000,000
	X ANY AUTO	X	X	22AAS03427	1/1/2022	1/1/2023	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB [ ] OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$
	DED [ ] RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						X PER STATUTE [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: Y	N/A	X	22AWS03427	1/1/2022	1/1/2023	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Excluded from Workers Compensation Coverage: Douglas Trucano and Jeffrey Trucano

Any and All Projects
Marine Park Deckover BE21-203

CERTIFICATE HOLDER

City and Borough of Juneau
155 S. Seward Street
Juneau, AK 99801

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

SECTION 00700 - GENERAL CONDITIONS

TABLE OF CONTENTS
(Revised 03-2003)

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES (Cont'd.)

ARTICLE 7 OTHER WORK

ARTICLE 8 OWNER'S RESPONSIBILITIES

ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION

SECTION 00700 - GENERAL CONDITIONS

ARTICLE 10 CHANGES IN THE WORK

ARTICLE 11 CHANGE OF CONTRACT PRICE

ARTICLE 12 CHANGE OF CONTRACT TIME

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

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

ARTICLE 16 MISCELLANEOUS

ARTICLE 1 DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

General Requirements - Division 1 of the Technical Specifications.

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

Holidays - The CBJ legal holidays occur on:

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

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

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

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

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

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

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

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

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

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

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

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

PCB's - Polychlorinated biphenyls.

PERMITTEE – See definition for CONTRACTOR.

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

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

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

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

Specifications - Same definition as "Technical Specifications" hereinafter.

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

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

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

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

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

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

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

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

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

ARTICLE 2 PRELIMINARY MATTERS

2.1 DELIVERY OF BONDS/INSURANCE CERTIFICATES. When the CONTRACTOR delivers the signed Agreements to the OWNER, the CONTRACTOR shall also deliver to the OWNER such Bonds and Insurance Policies and Certificates as the CONTRACTOR may be required to furnish in accordance with the Contract Documents.

2.2 COPIES OF DOCUMENTS. The OWNER shall furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Supplementary General Conditions.

2.3 COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED. The Contract Time will start to run on the commencement date stated in the Notice to Proceed.

2.4 STARTING THE WORK

A. The CONTRACTOR shall begin to perform the WORK within 10 days after the commencement date stated in the Notice to Proceed, but no WORK shall be done at the site prior to said commencement date.

B. Before undertaking each part of the WORK, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The CONTRACTOR shall promptly report in writing to the ENGINEER any conflict, error, or discrepancy which the CONTRACTOR may discover and shall obtain a written interpretation or clarification from the ENGINEER before proceeding with any WORK affected thereby.

C. The CONTRACTOR shall submit to the ENGINEER for review those documents called for under Section 01300 - CONTRACTOR Submittals in the General Requirements.

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

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

ARTICLE 3 CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 INTENT

A. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR concerning the WORK. The Contract Documents shall be construed as a whole in accordance with Alaska Law.

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

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

3.2 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

A. In resolving conflicts resulting from, errors, or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Permits from other agencies as may be required by law, excepting the definition of “PERMITEE” in these permits.
2. Field Orders
3. Change Orders
4. ENGINEER’s written interpretations and clarifications.
5. Agreement
6. Addenda
7. CONTRACTOR's Bid (Bid Form)
8. Supplementary General Conditions
9. Notice Inviting Bids

10. Instructions to Bidders
11. General Conditions
12. Technical Specifications
13. Drawings

B. With reference to the Drawings the order of precedence is as follows:

1. Figures govern over scaled dimensions
2. Detail Drawings govern over general Drawings
3. Addenda/ Change Order drawings govern over Contract Drawings
4. Contract Drawings govern over standard drawings

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

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

ARTICLE 4 AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

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

4.2 PHYSICAL CONDITIONS - SUBSURFACE AND EXISTING STRUCTURES

A. Explorations and Reports. Reference is made to SGC 4.2 Physical Conditions of the Supplementary General Conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by the ENGINEER in the preparation of the Contract Documents. The CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, however, reports are not to be considered complete or comprehensive and nontechnical data, interpretations, and opinions contained in such reports are not to be relied on by the CONTRACTOR. The CONTRACTOR is

responsible for any further explorations or tests that may be necessary and any interpretation, interpolation, or extrapolation that it makes of any information shown in such reports.

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

4.3 DIFFERING SITE CONDITIONS

A. The CONTRACTOR shall promptly upon discovery (but in no event later than 14 days thereafter) and before the following conditions are disturbed, notify the ENGINEER, in writing of any:

1. Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Article 1 of these General Conditions, or asbestos, PCB's, petroleum or any other substance or material posing a threat to human or to the environment.
2. Subsurface or latent physical conditions at the site differing from those indicated.
3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the contract.

B. The OWNER shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the WORK shall issue a Change Order under the procedures described in the contract.

C. In the event that a dispute arises between the OWNER and the CONTRACTOR whether the conditions materially differ, or involved hazardous waste or other materials listed above, or cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the WORK, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all WORK to be performed under the contract. The CONTRACTOR shall retain any and all rights provided either by contract or by Law which pertain to the resolution of disputes and protests between the contracting parties.

4.4 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES

A. Indicated. The information and data indicated in the Contract Documents with respect to existing Underground Utilities at or contiguous to the site are based on information and data furnished to the OWNER or the ENGINEER by the owners of such Underground Utilities or by others. Unless it is expressly provided in the Supplementary General Conditions and/or Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements, the OWNER and the ENGINEER shall not be responsible for the accuracy or

completeness of any such information or data, and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Utilities indicated in the Contract Documents, for coordination of the WORK with the owners of such Underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the WORK, the cost of which will be considered as having been included in the Contract Price.

B. Not Indicated. If an Underground Utility is uncovered or revealed at or contiguous to the site which was not indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall identify the owner of such Underground Utility and give written notice thereof to that owner and shall notify the ENGINEER in accordance with the requirements of the Supplementary General Conditions and Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements.

4.5 REFERENCE POINTS

A. The ENGINEER will provide one bench mark, near or on the site of the WORK, and will provide two points near or on the site to establish a base line for use by the CONTRACTOR for alignment control. Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish all other lines, grades, and bench marks required for proper execution of the WORK.

B. The CONTRACTOR shall preserve all bench marks, stakes, and other survey marks, and in case of their removal or destruction by its own employees or by its Subcontractor's employees, the CONTRACTOR shall be responsible for the accurate replacement of such reference points by personnel qualified under the Alaska Statute governing the licensing of Architects, Engineers, and Land Surveyors.

4.6 USE OF THE CBJ/STATE LEMON CREEK GRAVEL PIT

A. On City and Borough of Juneau (CBJ) construction projects, the CBJ may make unclassified material available to CONTRACTORs, from the CBJ/State Lemon Creek gravel pit, at a rate less than charged other customers. CONTRACTORs are not required to use material from the CBJ/State pit and the CBJ makes no guarantee as to the quantity or quality of the available material. For this Project, the price shall be $1.90 per ton.

B. CONTRACTORs proposing to use gravel from the CBJ/State pit are required to be in good standing for all amounts owed to the CBJ, for previous gravel operations, prior to submitting a mining plan for approval. CONTRACTORs using the pit must comply with Allowable Use Permit USE 98-00047. Failure to meet these requirements, if so subject, shall be sufficient reason to deny use of the CBJ/State pit as a gravel source. To determine if your company is subject to these requirements, contact the CBJ Engineering Department, Gravel Pit Management, at (907) 586-0800.

C. CONTRACTORs deciding to use material from the CBJ/State pit shall provide an Individual Mining Plan prepared by a professional engineer registered in the State of Alaska. The Individual Mining Plan must be reviewed and approved by the CBJ, prior to commencing operations within the pit. CONTRACTORs shall also secure a Performance Bond to ensure

compliance with contract provisions, including any Individual Mining Plan stipulations. The bond shall remain in full force and effect until a release is obtained from the CBJ.

D. If CONTRACTOR operations for a project do not exceed 500 tons of material, the CONTRACTOR will not be required to provide an Individual Mining Plan prepared by an engineer. However, the CONTRACTOR must submit an Individual Mining Plan that is in compliance with Allowable Use Permit USE 98-00047 for gravel extraction within the CBJ/State pit. The CONTRACTOR must contact the CBJ Engineering Department for conditions for the extraction.

E. CONTRACTORs using the CBJ material may do primary dry separation (screening) of materials within the pit. Crushing and washing of material will not be allowed. CONTRACTORs shall account for placement of materials removed from the pit. The CBJ may require CONTRACTORs to cross-check weight tickets, submit to an audit, or participate in other measures required by the CBJ to ensure accountability. Unprocessed overburden removed from the pit will not be weighed. All other material mined will be weighed at the CBJ scale. CONTRACTORs will be responsible for loading and/or screening their own material. If asphalt pavement is removed as part of the WORK, CONTRACTORs shall dispose of the material at a to-be-specified location within the pit area, as directed by the CBJ Project Manager.

F. The gravel pit overhead charge shall be paid to the CBJ by the CONTRACTOR within 60 days after removal of all materials from the pit and prior to requesting and/or receiving final payment. Upon completion of each excavation CONTRACTORs shall notify the CBJ, in writing, in sufficient time to perform a field-compliance examination prior to vacating the pit. Any significant deviation from the stipulations of the Individual Mining Plan identified during the field inspection shall be corrected by the CONTRACTOR prior to release of the bond. A signed release from CBJ will be required prior to releasing the CONTRACTOR's bond.

G. If asphalt pavement is removed as part of this WORK, the CONTRACTOR shall dispose of the material at the location designated as the Asphalt Storage Facility, or as directed by the ENGINEER.

H. The CBJ/State pit is a seasonal operation. The hours of operation are from 7:00 a.m. to 6:00 p.m., Monday through Friday, from April 1 through October 15 of the year. CONTRACTORS may obtain gravel on weekends, or during the off-season, by applying for a separate agreement with the City and Borough of Juneau Engineering Department. The CONTRACTOR will be responsible for any additional costs incurred during weekend or off-season operations at the gravel pit.

I. All Contractors/Equipment Operators using the CBJ/State Pit shall be in compliance with Federal Mine Safety and Health Administration regulations for quarry and gravel operations.

ARTICLE 5 BONDS AND INSURANCE

5.1 PERFORMANCE, PAYMENT, AND OTHER BONDS

A. The CONTRACTOR shall furnish, when required, Performance and Payment Bonds on forms provided by the CBJ for the penal sums of 100% of the amount of the Bid award. The

surety on each bond may be any corporation or partnership authorized to do business in the State of Alaska as an insurer under AS 21.09. These bonds shall remain in effect for 12 months after the date of final payment and until all obligations and liens under this contract have been satisfied. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

B. If the surety on any Bond furnished by the CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and Surety, which must be acceptable to the OWNER.

C. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of Alaska to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions. The City Engineer may, on behalf of the OWNER, notify the surety of any potential default or liability.

5.2 INSURANCE

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

B. All insurance required by the Contract Documents to be purchased and maintained by the CONTRACTOR shall be obtained from insurance companies that are duly licensed or authorized in the State of Alaska to issue insurance policies for the limits and coverages so required. Such insurance companies shall have a current Best's Rating of at least an "A" (Excellent) general policy holder's rating and a Class VII financial size category and shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.

C. The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, reduced in coverage, or renewal refused until at least 30 days' prior written

notice has been given to the OWNER by certified mail. All such insurance required herein (except for Workers' Compensation and Employer's Liability) shall name the OWNER, its Consultants and subconsultants and their officers, directors, agents, and employees as "additional insureds" under the policies. The CONTRACTOR shall purchase and maintain the following insurance:

1. Workers' Compensation and Employer's Liability. This insurance shall protect the CONTRACTOR against all claims under applicable state workers' compensation laws. The CONTRACTOR shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Workers' Compensation law. This policy shall include an "all states" endorsement. The CONTRACTOR shall require each Subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such WORK unless such employees are covered by the protection afforded by the CONTRACTOR's Workers' Compensation Insurance. In case any class of employees is not protected, under the Workers' Compensation Statute, the CONTRACTOR shall provide and shall cause each Subcontractor to provide adequate employer's liability insurance for the protection of such of its employees as are not otherwise protected.
2. Commercial General Liability. This insurance shall be written in comprehensive form and shall protect the CONTRACTOR against all claims arising from injuries to persons other than its employees or damage to property of the OWNER or others arising out of any act or omission of the CONTRACTOR or its agents, employees, or Subcontractors. The policy shall contain no exclusions for any operations within the scope of this contract.
3. Comprehensive Automobile Liability. This insurance shall be written in comprehensive form and shall protect the CONTRACTOR against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired. Coverage for hired motor vehicles should include endorsement covering liability assumed under this Agreement.
4. Subcontractor's Commercial General Liability Insurance and Commercial Automobile Liability Insurance. The CONTRACTOR shall either require each of its Subcontractors to procure and to maintain Subcontractor's Commercial General Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amounts specified in the Supplementary General Conditions or insure the activities of its Subcontractors in the CONTRACTOR's own policy, in like amount.
5. Builder's Risk. This insurance shall be of the "all risks" type, shall be written in completed value form, and shall protect the CONTRACTOR, the OWNER, and the ENGINEER, against risks of damage to buildings, structures, and materials and equipment. The amount of such insurance shall be not less than the insurable value of the WORK at completion. Builder's risk insurance shall provide for losses to be payable to the CONTRACTOR and the OWNER, as their interests may appear. The policy shall contain a provision that in the event of payment for any loss under the coverage provided, the insurance company shall have no rights of recovery against the CONTRACTOR, the OWNER, and the ENGINEER. The Builder's Risk policy shall insure against all risks of direct physical loss or damage to property from any external

cause including flood and earthquake. Allowable exclusions, if any, shall be as specified in the Supplementary General Conditions.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

6.1 SUPERVISION AND SUPERINTENDENCE

A. The CONTRACTOR shall supervise, inspect, and direct the WORK competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the WORK in accordance with the Contract Documents. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incidental thereto. The CONTRACTOR shall be responsible to see that the completed WORK complies accurately with the Contract Documents.

B. The CONTRACTOR shall designate in writing and keep on the WORK site at all times during its progress a technically qualified, English-speaking superintendent, who is an employee of the CONTRACTOR and who shall not be replaced without written notice to the OWNER and the ENGINEER. The superintendent will be the CONTRACTOR's representative at the site and shall have authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall issue all its communications to the OWNER through the ENGINEER and the ENGINEER only.

C. The CONTRACTOR's superintendent shall be present at the site of the WORK at all times while WORK is in progress. Failure to observe this requirement shall be considered suspension of the WORK by the CONTRACTOR until such time as such superintendent is again present at the site.

6.2 LABOR, MATERIALS, AND EQUIPMENT

A. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the WORK and perform construction as required by the Contract Documents. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and any temporary works as may be required. The CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the WORK or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all WORK at the site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday, or any legal holiday without the OWNER's written consent. The CONTRACTOR shall apply for this consent through the ENGINEER.

B. Except as otherwise provided in this Paragraph, the CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of 8 hours in any one calendar day or 40 hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing. Additional compensation will be paid the CONTRACTOR for overtime work only in the event extra work is ordered by the ENGINEER and the Change Order specifically authorizes

the use of overtime work and then only to such extent as overtime wages are regularly being paid by the CONTRACTOR for overtime work of a similar nature in the same locality.

C. All costs of inspection and testing performed during overtime work by the CONTRACTOR which is allowed solely for the convenience of the CONTRACTOR shall be borne by the CONTRACTOR. The OWNER shall have the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the CONTRACTOR.

D. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the WORK.

E. All materials and equipment to be incorporated into the WORK shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of the OWNER. If required by the ENGINEER, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provisions of any such instructions will be effective to assign to the ENGINEER, or any of the ENGINEER consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraphs 9.9C and 9.9D.

F. The CONTRACTOR shall at all times employ sufficient labor and equipment for prosecuting the several classes of WORK to full completion in the manner and time set forth in and required by these specifications. All workers shall have sufficient skill and experience to perform property 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.

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.

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,

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.

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.

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

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

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

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

Duties and Responsibilities. The Inspector may:

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

subsequent to the execution of the contract, the ENGINEER's clarifications and interpretations of the Contract Documents, progress reports, and other related documents.

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

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

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

9.4 CLARIFICATIONS AND INTERPRETATIONS. The ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract

Documents (in the form of Drawings or otherwise) as the ENGINEER may determine necessary, which shall be consistent with, or reasonably inferred from, the overall intent of the Contract Documents.

9.5 AUTHORIZED VARIATIONS IN WORK. The ENGINEER may authorize variations in the WORK from the requirements of the Contract Documents. These may be accomplished by a Field Order and will require the CONTRACTOR to perform the WORK involved in a manner that minimizes the impact to the WORK and the contract completion date. If the CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time, the CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

9.6 REJECTING DEFECTIVE WORK. The ENGINEER will have authority to reject WORK which the ENGINEER believes to be defective and will also have authority to require special inspection or testing of the WORK as provided in Paragraph 13.3G, whether or not the WORK is fabricated, installed, or completed.

9.7 CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS

A. In accordance with the procedures set forth in the General Requirements, the ENGINEER will review all CONTRACTOR submittals, including Shop Drawings, samples, substitutes, or "or equal" items, etc., in order to determine if the items covered by the submittals will, after installation or incorporation in the WORK, conform to the requirements of the Contract Documents and be compatible with the design concept of the completed project as a functioning whole as indicated by the Contract Documents. The ENGINEER's review will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto.

B. In connection with the ENGINEER's responsibilities as to Change Orders, see Articles 10, 11, and 12.

C. In connection with the ENGINEER's responsibilities in respect of Applications for Payment, see Article 14.

9.8 DECISIONS ON DISPUTES

A. The ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the WORK thereunder. Claims, disputes, and other matters relating to the acceptability of the WORK; the interpretation of the requirements of the Contract Documents pertaining to the performance of the WORK; and those claims under Articles 11 and 12 in respect to changes in the Contract Price or Contract Time will be referred initially to the ENGINEER in writing with a request for formal decision in accordance with this paragraph, which the ENGINEER will render in writing within 30 days of receipt of the request. Written notice of each such claim, dispute, and other matter will be delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 30 days) after the occurrence of the event giving rise thereto. Written supporting data will be submitted to the ENGINEER within 60 days after such occurrence unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

B. The rendering of a decision by the ENGINEER with respect to any such claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 14.12) will be a condition precedent to any exercise by the OWNER or the CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Law or Regulations in respect of any such claim, dispute, or other matter.

9.9 LIMITATION ON ENGINEER'S RESPONSIBILITIES

A. Neither the ENGINEER's authority to act under this Article or other provisions of the Contract Documents nor any decision made by the ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any Supplier, any surety for any of them, or any other person or organization performing any of the WORK.

B. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as reviewed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of the ENGINEER as to the WORK, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the WORK for compliance with the requirements of the Contract Documents, and conformance with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the ENGINEER any duty or authority to supervise or direct the performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9C or 9.9D.

C. The ENGINEER will not supervise, direct, control, or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations, applicable to the performance of the WORK. The ENGINEER will not be responsible for the CONTRACTOR's failure to perform the WORK in accordance with the Contract Documents.

D. The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR nor of any Subcontractor, supplier, or any other person or organization performing any of the WORK.

ARTICLE 10 CHANGES IN THE WORK

10.1 GENERAL

A. Without invalidating the Agreement and without notice to any surety, the OWNER may at any time or from time to time, order additions, deletions, or revisions in the WORK; these will be authorized by a written Field Order and/or a Change Order issued by the ENGINEER.

B. If the CONTRACTOR believes that it is entitled to an increase or decrease in the Contract Price, or an extension or shortening in the Contract Time as the result of a Field Order, a claim may be made as provided in Articles 11 and 12.

C. If the OWNER and CONTRACTOR agree on the value of any work, or the amount of Contract Time that should be allowed as a result of a Field Order, upon receiving written notice from the ENGINEER, the CONTRACTOR shall proceed so as to minimize the impact on and delays to the work pending the issuance of a Change Order.

D. If the OWNER and the CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Field Order, the ENGINEER can direct the CONTRACTOR to proceed on the basis of Time and Materials so as to minimize the impact on and delays to WORK, and a claim may be made therefor as provided in Articles 11 and 12.

E. The CONTRACTOR shall not be entitled to an increase in the Contract Price nor an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified, supplemented by Change Order, except in the case of an emergency and except in the case of uncovering work as provided in Paragraph 13.3G.

F. The OWNER and the CONTRACTOR shall execute appropriate Change Orders covering:

1. changes in the WORK which are ordered by the OWNER pursuant to Paragraph 10.1A;
2. changes required because of acceptance of Defective WORK under Paragraph 13.7;
3. changes in the Contract Price or Contract Time which are agreed to by the parties; or
4. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by the ENGINEER pursuant to Paragraph 9.8.

G. If notice of any change is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable Bond shall be adjusted accordingly.

10.2 ALLOWABLE QUANTITY VARIATIONS

A. In the event of an increase or decrease in Bid item quantity of a unit price contract, the total amount of WORK actually done or materials or equipment furnished shall be paid for according to the unit price established for such WORK under the Contract Documents, wherever such unit price has been established; provided, that an adjustment in the Contract Price may be made for changes which result in an increase or decrease in excess of 25% of

the estimated quantity of any major item of the WORK. Major Item is defined as any bid item amount that is ten percent (10%) or more of the total contract amount.

B. In the event a part of the WORK is to be entirely eliminated and no lump sum or unit price is named in the Contract Documents to cover such eliminated work, the price of the eliminated work shall be agreed upon in writing by the OWNER and the CONTRACTOR. If the OWNER and the CONTRACTOR fail to agree upon the price of the eliminated work, said price shall be determined in accordance with the provisions of Article 11.

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.1 GENERAL

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

B. The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 7 days) after the start of the occurrence or the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within 14 days after such occurrence (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by the ENGINEER in accordance with Paragraph 9.8A if the OWNER and the CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph 11.1B.

C. The value of any WORK covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

1. Where the WORK involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
2. By mutual acceptance of a lump sum, which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.4.
3. On the basis of the cost of WORK (determined as provided in Paragraphs 11.3) plus a CONTRACTOR's fee for overhead and profit (determined as provided in Paragraph 11.4).

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

11.3 COST OF WORK (BASED ON TIME AND MATERIALS)

A. General. The term "cost of work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR for labor, materials, and equipment in the proper performance of extra work. Except as otherwise may be agreed to in writing by the OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.5 EXCLUDED COSTS.

B. Labor. The costs of labor will be the actual cost for wages prevailing for each craft or type of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, worker's compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. Labor costs for equipment operators and helpers shall be paid only when such costs are not included in the invoice for equipment rental. The labor costs for forepersons shall be proportioned to all of their assigned work and only that applicable to extra work shall be paid. Non-direct labor costs including superintendence shall be considered part of the mark-up set out in paragraph 11.4.

C. Materials. The cost of materials reported shall be at invoice or lowest current price at which materials are locally available and delivered to the job in the quantities involved, plus the cost of freight, delivery and storage, subject to the following:

1. Trade discounts available to the purchaser shall be credited to the OWNER notwithstanding the fact that such discounts may not have been taken by the CONTRACTOR.
2. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the ENGINEER. Mark-up except for actual costs incurred in the handling of such materials will not be allowed.
3. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on extra work items or the current wholesale price for such materials delivered to the work site, whichever price is lower.
4. If in the opinion of the ENGINEER the cost of material is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such material, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the work site less trade discount. The OWNER reserves the right to furnish materials for the extra work and no claim shall be allowed by the CONTRACTOR for costs and profit on such materials.

D. Equipment. The CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the Supplementary General Conditions. Such rental rate will be used to compute payments for equipment whether the equipment is under the CONTRACTOR's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment shall be the rate resulting in the least total cost to the OWNER for the total period of use. If it is deemed

necessary by the CONTRACTOR to use equipment not listed in the publication specified in the Supplementary General Conditions, an equitable rental rate for the equipment will be established by the ENGINEER. The CONTRACTOR may furnish cost data which might assist the ENGINEER in the establishment of the rental rate.

1. All equipment shall, in the opinion of the ENGINEER, be in good working condition and suitable for the purpose for which the equipment is to be used.
2. Before construction equipment is used on the extra work, the CONTRACTOR shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the ENGINEER, in duplicate, a description of the equipment and its identifying number.
3. Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.
4. Individual pieces of equipment or tools having a replacement value of $200 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor.
5. Rental time will not be allowed while equipment is inoperative due to breakdowns.
6. Equipment Rental Rates. Unless otherwise agreed in writing, the CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the current edition of the following reference publication: "Rental Rate Blue Book" as published by Dataquest (a company of the Dunn and Bradstreet Corporation), 1290 Ridder Park Drive, San Jose, CA 95131, telephone number (800) 227-8444.

E. Equipment on the Work Site. The rental time to be paid for equipment on the work site shall be the time the equipment is in productive operation on the extra work being performed and, in addition, shall include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the extra work, even though located at the site of the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transporting costs when the equipment is used at the site of the extra work on other than the extra work. The following shall be used in computing the rental time of equipment on the work site.

1. When hourly rates are listed, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
2. When daily rates are listed, any part of a day less than 4 hours operation shall be considered to be 1/2-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a time and materials basis, the CONTRACTOR will be paid for the equipment and operator, as set forth in Paragraphs (3), (4), and (5), following.
3. Payment for the equipment will be made in accordance with the provisions in Paragraph 11.3D, herein.
4. Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already

on the work site, or in the absence of such labor, established by collective bargaining agreements for the type of worker and location of the extra work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein in accordance with the provisions of Paragraph 11.3B, herein, which surcharge shall constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages.

5. To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Paragraph 11.4, herein.

F. Specialty Work. Specialty work is defined as that work characterized by extraordinary complexity, sophistication, or innovation or a combination of the foregoing attributes which are unique to the construction industry. The following shall apply in making estimates for payment for specialty work:

1. Any bid item of WORK to be classified as Specialty Work shall be listed as such in the Supplementary General Conditions. Specialty work shall be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the ENGINEER, invoices for specialty work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs.
2. When the CONTRACTOR is required to perform work necessitating special fabrication or machining process in a fabrication or a machine shop facility away from the job site, the charges for that portion of the work performed at the off-site facility may, by agreement, be accepted as specialty work and accordingly, the invoices for the work may be accepted without detailed itemization.
3. All invoices for specialty work will be adjusted by deducting all trade discounts offered or available, whether the discounts were taken or not. In lieu of the allowances for overhead and profit specified in Paragraph 11.4, herein, an allowance of 5 percent will be added to invoices for specialty work.

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

11.4 CONTRACTOR'S FEE

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

Actual Overhead and Profit Allowance

Labor	15 percent
Materials	10 percent
Equipment	10 percent

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

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

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

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

B. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

C. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the WORK and charges against CONTRACTOR for delinquent payments.

D. Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by paragraph 11.4 above).

E. Costs due to the negligence of CONTRACTOR , any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective WORK, disposal of materials or equipment wrongly supplied and making good any damage to property.

F. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in paragraph 11.4.

ARTICLE 12 CHANGE OF CONTRACT TIME

12.1 GENERAL

A. The Contract Time may only be changed by a Change Order. Any claim for an extension of the Contract Time (or Milestones) shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 30 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within 60 days after such occurrence (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by the ENGINEER in accordance with Paragraph 9.8 if the OWNER and the CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this Paragraph 12.1A. An increase in Contract Time does not mean that the Contractor is due an increase in Contract Price. Only compensable time extensions will result in an increase in Contract Price.

B. All time limits stated in the Contract Documents are of the essence of the Agreement.

C. Where CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost on the critical path of the project due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, unprecedented weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

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

12.2 EXTENSIONS OF TIME FOR DELAY DUE TO WEATHER. Contract Time may be extended by the ENGINEER because of delays in completion of the WORK due to unusually severe weather, provided that the CONTRACTOR shall, within 10 days of the beginning of any such delay, notify the ENGINEER in writing of the cause of delay and request an extension of Contract Time. The

ENGINEER will ascertain the facts and the extent of the delay and extend the time for completing the work when, in the ENGINEER's judgment, the findings of fact justify such an extension. Unprecedented, abnormal, or unusually severe weather will be defined as an event, or events, with a greater than 50-year recurrence interval, as determined by the National Weather Service, or equivalent State or Federal agency

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

13.1 WARRANTY AND GUARANTEE. The CONTRACTOR warrants and guarantees to the OWNER and the ENGINEER that all work will be in accordance with the Contract Documents and will not be defective. Prompt notice of defects known to the OWNER or ENGINEER shall be given to the CONTRACTOR. All defective work, whether or not in place, may be rejected, corrected, or accepted as provided in this Article 13.

13.2 ACCESS TO WORK. OWNER, ENGINEER, their Consultants, sub-consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the WORK at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

13.3 TESTS AND INSPECTIONS

A. The CONTRACTOR shall give the ENGINEER timely notice of readiness of the WORK for all required inspections, tests, or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. If Laws or Regulations of any public body having jurisdiction other than the OWNER require any WORK to specifically be inspected, tested, or approved, the CONTRACTOR shall pay all costs in connection therewith. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with the OWNER's or the ENGINEER's acceptance of a Supplier of materials or equipment proposed as a substitution or (or-equal) to be incorporated in the WORK, or of materials or equipment submitted for review prior to the CONTRACTOR's purchase thereof for incorporation in the WORK. The cost of all inspections, tests, and approvals in addition to the above which are required by the Contract Documents shall be paid by the OWNER (unless otherwise specified).

C. The ENGINEER will make, or have made, such inspections and tests as the ENGINEER deems necessary to see that the WORK is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified in the Supplementary General Conditions, the cost of such inspection and testing will be borne by the OWNER. In the event such inspections or tests reveal non-compliance with the requirements of the Contract Documents, the CONTRACTOR shall bear the cost of corrective measures deemed necessary by the ENGINEER, as well as the cost of subsequent reinspection and retesting. Neither observations by the ENGINEER nor inspections, tests, or approvals by others shall relieve the CONTRACTOR from the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.

D. All inspections, tests, or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to the ENGINEER and the CONTRACTOR.

E. If any WORK (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the ENGINEER timely notice of the CONTRACTOR's intention to perform such test or to cover the same and the ENGINEER has not acted with reasonable promptness in response to such notice.

F. If any WORK is covered contrary to the written request of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER's observation and recovered at the CONTRACTOR's expense.

G. If the ENGINEER considers it necessary or advisable that covered WORK be observed by the ENGINEER or inspected or tested by others, the CONTRACTOR, at the ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, material, and equipment. If it is found that such WORK is defective, the CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to fees and charges of engineers, attorneys, and other professionals. However, if such WORK is not found to be defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, the CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

13.4 OWNER MAY STOP THE WORK. If the WORK is defective, or the CONTRACTOR fails to perform work in such a way that the completed WORK will conform to the Contract Documents, the OWNER may order the CONTRACTOR to stop the WORK, or any portion thereof, until the cause for such order has been eliminated; however, this right of the OWNER to stop the WORK shall not give rise to any duty on the part of the OWNER to exercise this right for the benefit of the CONTRACTOR or any other party.

13.5 CORRECTION OR REMOVAL OF DEFECTIVE WORK. If required by the ENGINEER, the CONTRACTOR shall promptly, either correct all defective work, whether or not fabricated, installed, or completed, or, if the WORK has been rejected by the ENGINEER, remove it from the site and replace it with non-defective work. The CONTRACTOR shall bear all direct, indirect and consequential costs and damages of such correction or removal, including but not limited to fees and charges of engineers, attorneys, and other professionals made necessary thereby.

13.6 ONE YEAR CORRECTION PERIOD

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, the CONTRACTOR shall promptly, without cost to the OWNER and in accordance with OWNER's written notification, (i) correct such Defective WORK, or, if it has been rejected by the OWNER, remove it from the site and replace it with non-defective work, and (ii) satisfactorily correct or remove and replace any damage to other work of others resulting therefrom. If the CONTRACTOR does not promptly comply with such notification, or in an emergency where delay would cause serious risk of loss or damage, the OWNER may have the Defective WORK corrected or the rejected WORK removed and replaced, and all direct, indirect, and consequential costs and damages of such removal and replacement including but not limited to fees and charges of engineers, attorneys and other professionals will be paid by the CONTRACTOR.

B. Where Defective WORK (and damage to other WORK resulting therefrom) has been corrected, removed or replaced under this paragraph 13.6, the correction period hereunder with respect to such WORK will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

13.7 ACCEPTANCE OF DEFECTIVE WORK. If, instead of requiring correction or removal and replacement of defective work, the OWNER prefers to accept the WORK, the OWNER may do so. The CONTRACTOR shall bear all direct, indirect, and consequential costs attributable to the OWNER's evaluation of and determination to accept such defective work. If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the OWNER shall be entitled to an appropriate decrease in the Contract Price.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 SCHEDULE OF VALUES (LUMP SUM PRICE BREAKDOWN). The schedule of values or lump sum price breakdown established as provided in the General Requirements shall serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the ENGINEER.

14.2 UNIT PRICE BID SCHEDULE. Progress payments on account of Unit Price work will be based on the number of units completed.

14.3 APPLICATION FOR PROGRESS PAYMENT

A. Unless otherwise prescribed by law, on the 25th of each month, the CONTRACTOR shall submit to the ENGINEER for review, an Application for Payment filled out and signed by the CONTRACTOR covering the WORK completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

B. The Application for Payment shall identify, as a sub-total, the amount of the CONTRACTOR'S Total Earnings to Date, plus the Value of Materials Stored at the Site which have not yet been incorporated in the WORK, and less a deductive adjustment for

materials installed which were not previously incorporated in the WORK, but for which payment was allowed under the provisions for payment for Materials Stored at the Site, but not yet incorporated in the WORK.

C. The Net Payment Due the CONTRACTOR shall be the above-mentioned subtotal from which shall be deducted the total amount of all previous payments made to the CONTRACTOR. Progress payments will be paid in full in accordance with Article 14 of the General Conditions until 90% of the Contract Price has been paid. The remaining 10% of the Contract Price amount may be withheld until:

1. final inspection has been made;
2. completion of the Project; and
3. acceptance of the Project by the OWNER.

D. The Value of Materials Stored at the Site shall be an amount equal to the specified percent of the value of such materials as set forth in the Supplementary General Conditions. Said amount shall be based upon the value of all acceptable materials and equipment not incorporated in the WORK but delivered and suitably stored at the site or at another location agreed to in writing; provided, each such individual item has a value of more than $5,000.00 and will become a permanent part of the WORK. The Application for Payment shall also be accompanied by an invoice (including shipping), a certification that the materials meet the applicable contract specifications, and any evidence required by the OWNER that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the OWNER's interest therein, all of which will be satisfactory to the OWNER. Payment for materials will not constitute final acceptance. It shall be the CONTRACTOR’s responsibility to protect the material from damage, theft, loss, or peril while in storage. Unless otherwise prescribed by law, the Value of Materials Stored at the Site shall be paid at the invoice amount up to a maximum of 85% of the Contract Price for those items.

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

14.5 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

A. The ENGINEER will, within 7 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to the OWNER, or return the Application to the CONTRACTOR indicating in writing the ENGINEER's reasons for refusing to recommend payment. In the later case, the CONTRACTOR may make the necessary corrections and resubmit the Application. If the ENGINEER still disagrees with a portion of the Application, it will submit the Application recommending the undisputed portion of the Application to the OWNER for payment and provide reasons for recommending non-payment of the disputed amount. Thirty days after presentation of the Application for Payment with the ENGINEER's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.5B) become due and when due will be paid by the OWNER to the CONTRACTOR.

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

14.6 PARTIAL UTILIZATION

A. The OWNER shall have the right to utilize or place into service any item of equipment or other usable portion of the WORK prior to completion of the WORK. Whenever the OWNER plans to exercise said right, the CONTRACTOR will be notified in writing by the OWNER, identifying the specific portion or portions of the WORK to be so utilized or otherwise placed into service.

B. It shall be understood by the CONTRACTOR that until such written notification is issued, all responsibility for care and maintenance of all of the WORK shall be borne by the CONTRACTOR. Upon issuance of said written notice of partial utilization, the OWNER will accept responsibility for the protection and maintenance of all such items or portions of the WORK described in the written notice.

C. The CONTRACTOR shall retain full responsibility for satisfactory completion of the WORK, regardless of whether a portion thereof has been partially utilized by the OWNER and the CONTRACTOR's one year correction period shall commence only after the date of Substantial Completion for the WORK.

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

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

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.

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

the value of work performed up to the date the Agreement is terminated; and, (2) for the cost of materials and equipment on hand, in transit, or on definite commitment, as of the date the Agreement is terminated which would be needed in the WORK and which meet the requirements of the Contract Documents. The value of work performed and the cost of materials and equipment delivered to the site, as mentioned above, shall be determined by the ENGINEER in accordance with the procedure prescribed for the making of the final application for payment and payment under Paragraphs 14.8 and 14.9.

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

ARTICLE 16 MISCELLANEOUS

16.1 GIVING NOTICE. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

16.2 RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK

A. The CONTRACTOR may use on the Project, with ENGINEER's approval, such stone, gravel, sand, or other material determined suitable by the ENGINEER, as may be found in the excavation. The CONTRACTOR will be paid for the excavation of such material at the corresponding contract unit price. No additional payment will be made for utilizing the material from excavation as borrow, or select borrow.

B. The CONTRACTOR shall replace, at its own expense, with other acceptable material, all of that portion of the excavated material so removed and used which was needed for use on the project. No charge for the materials so used will be made against the CONTRACTOR except that the CONTRACTOR shall be responsible for payment of any royalties required.

C. The CONTRACTOR shall not excavate or remove any material from within the Project location which is not within the grading limits, as indicated by the slope and grade lines, without written authorization from the ENGINEER.

D. In the event the CONTRACTOR has processed materials from OWNER-furnished sources in excess of the quantities required for performance of this contract, including any waste material produced as a by-product, the CBJ may retain possession of such materials without obligation to reimburse the CONTRACTOR for the cost of their production. When such

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

16.7 SUITS OF LAW CONCERNING THE WORK

A. Should a suit of law be entered into, either by the CONTRACTOR (or the CONTRACTOR's surety) against the OWNER, or by the OWNER against the CONTRACTOR (or the CONTRACTOR's surety), the suit of law shall be tried in the First Judicial District of Alaska.

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

16.8 CERTIFIED PAYROLLS

A. All CONTRACTORs or Subcontractor who perform work on a public construction contract for the OWNER shall file a certified payroll with the Alaska Department of Labor before Friday of each week that covers the preceding week (Section 14-2-4 ACLA 1949; am Section 4 ch 142 SLA 1972).

B. In lieu of submitting the State payroll form, the CONTRACTOR's standard payroll form may be submitted, provided it contains the information required by AS 36.05.040 and a statement that the CONTRACTOR is complying with AS 36.10.010.

C. A contractor or subcontractor, who performs work on public construction in the State, as defined by AS 36.95.010(3), shall pay not less than the current prevailing rate of wages as issued by the Alaska Department of Labor before the end of the pay period. (AS 36.05.010).

16.9 PREVAILING WAGE RATES

A. Wage rates for Laborers and Mechanics on Public Contracts, AS 36.05.070. The CONTRACTOR, or Subcontractors, shall pay all employees unconditionally and not less than once a week. Wages may not be less than those stated in Paragraph 16.8C, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors. The scale of wages to be paid shall be posted by the CONTRACTOR in a prominent, easily accessible place at the site of the WORK.

B. Failure to Pay Agreed Wages, AS 36.05.080. If it is found that a laborer, mechanic, or field surveyor employed by the CONTRACTOR or Subcontractor has been, or is being, paid a rate or wages less than the established rate, the OWNER may, by written notice, terminate the CONTRACTOR or Subcontractors right to proceed with the work. The OWNER may prosecute the work to completion by contract or otherwise, and the CONTRACTOR and sureties will be held liable to the OWNER for excess costs for completing the WORK. (Section 2 ch 52 SLA 1959).

C. Listing Contractor's Who Violate Contracts, AS 36.05.090. In addition, a list giving the names of persons who have disregarded the rights of their employees shall be distributed to all departments of State government and all political subdivisions. No person appearing on this

list, and no firm, corporation, partnership or association in which the person has an interest, may work as a CONTRACTOR or Subcontractor on a public construction contract for the State, or a political subdivision of the state, until three years after the date of publication of the list. (Section 3 ch 52 SLA 1959; am Section 9 ch 142 SLA).

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

16.11 COST REDUCTION INCENTIVE

A. At any time within 45 days after the date of the Notice of Award, the CONTRACTOR may submit to the ENGINEER in writing, proposals for modifying the plans, specifications, or other requirements of this contract for the sole purpose of reducing the total cost of construction. The cost reduction proposal shall not impair in any manner the essential functions or characteristics of the project, including but not limited to, service life, economy of operation, ease of maintenance, desired appearance or design and safety standards.

B. The cost reduction proposal shall contain the following information:

1. Description of both the existing contract requirements for performing the WORK and the proposed changes.
2. An itemization of the contract requirements that must be changed if the proposal is adopted.
3. A detailed estimate of the time required and the cost of performing the WORK under both the existing contract and the proposed change.
4. A statement of the date by which the CONTRACTOR must receive the decision from the OWNER on the cost reduction proposal.
5. The contract items of WORK effected by the proposed changes including any quantity variations.
6. A description and estimate of costs the OWNER may incur in implementing the proposed changes, such as test and evaluation and operating and support costs.
7. A prediction of any effects the proposed change would have on future operations and maintenance costs to the OWNER.

C. The provisions of this section shall not be construed to require the OWNER to consider any cost reduction proposal which may be submitted; nor will the OWNER be liable to the CONTRACTOR for failure to accept or act upon any cost reduction proposal submitted, or for delays to the work attributable to the consideration or implementation of any such proposal.

D. If a cost reduction proposal is similar to a change in the plans or specifications for the project under consideration by the OWNER at the time the proposal is submitted, the OWNER will not accept such proposal and reserves the right to make such changes without compensation to the CONTRACTOR under the provisions of this section.

E. The CONTRACTOR shall continue to perform the work in accordance with the requirements of the contract until an executed Change Order incorporating the cost reduction proposal has

been issued. If any executed Change Order has not been issued by the date upon which the CONTRACTOR's cost reduction proposal specifies that a decision should be made by the OWNER, in writing, the cost reduction proposal shall be considered rejected.

F. The OWNER, shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings in Contract Time and construction costs resulting from the adoption of all or any part of such proposal. Should the CONTRACTOR disagree with OWNER's decision on the cost reduction proposal, there is no further consideration. The OWNER reserves the right to make final determination.

G. If the CONTRACTOR's cost reduction proposal is accepted in whole or in part, such acceptance will be made by a contract Change Order, which specifically states that the change is executed pursuant to this cost reduction proposal section. Such Change Order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted to be put into effect and shall include any conditions upon which the OWNER's approval is based, if such approval is conditional. The Change Order shall also describe the estimated net savings in the cost of performing the work attributable to the cost reduction proposal, and shall further provide that the contract cost be adjusted by crediting the OWNER with the estimated net savings amount.

H. Acceptance of the cost reduction proposal and performance of the work does not extend the time of completion of the contract, unless specifically provided in the Change Order authorizing the use of the submitted proposal. Should the adoption of the cost reduction proposal result in a Contract Time savings, the total Contract Time shall be reduced by an amount equal to the time savings realized.

I. The amount specified to the CONTRACTOR in the Change Order accepted in the cost reduction proposal shall constitute full compensation for the performance of WORK. No claims for additional costs as a result of the changes specified in the cost reduction proposal shall be allowed.

J. The OWNER reserves the right to adopt and utilize any approved cost reduction proposal for general use on any contract administered when it is determined suitable for such application. Cost reduction proposals identical, similar, or previously submitted will not be accepted for consideration if acceptance and compensation has previously been approved. The OWNER reserves the right to use all or part of any cost reduction proposal without obligation or compensation of any kind to the CONTRACTOR.

K. The CONTRACTOR shall bear the costs, if any, to revise all bonds and insurance requirements for the project, to include the cost reduction WORK.

END OF SECTION

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

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

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

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

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

The OWNER shall furnish to the CONTRACTOR two (2) hard copies of the Contract Documents which will include bound reduced Drawings and one (1) electronic copy (pdf format) on a CD-ROM. Additional copies of contract documents are the responsibility of the contractor.

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.

Add the following SGC 4.7**:**

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**.

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.

2. Commercial General Liability (CGL), including products and completed operations, property damage, bodily injury and personal and advertising injury, 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).

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. Builder's Risk: CONTRACTOR is not required to obtain a Builder's Risk insurance policy for this project.

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

E. All Subcontractors are required to secure and maintain the insurance coverages listed above, unless otherwise noted.

F. 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.

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

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

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

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 original contract amount. The 40%

requirement will be calculated based upon the total of the subcontract amounts submitted for Contract Award, and any other information requested by the OWNER from the apparent low Bidder.

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

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

SGC 6.6 PERMITS, ***Add*** the following paragraph:

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

SGC 14.3 APPLICATION FOR PROGRESS PAYMENT. Paragraph D.

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

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

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

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

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

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Labor and Workforce Development

Division of Employment and Training Services
Employment Security Tax

P.O. Box 115509
Juneau, AK 99811-5509
Relay Alaska (in state): (800) 770-8973 or 7.1.1
Relay Alaska (out of state): (800) 770-8255
Toll free: (888) 448-2937
Phone: (907) 465-2787
Fax: (907) 465-2374

Tax Clearance Request Form for Contractors

Date of request: _____

Business name of the contractor a Tax Clearance is being requested for: _____

_____

Business address: _____

Business contact phone number: _____

Federal Identification Number: _____

Alaska Employer Account Number: _____

Specific time period a tax clearance is being requested for *(i.e. beginning and ending date of a subcontract agreement)*:

_____

Subcontract project name: _____

_____

Name and address of the person this Tax Clearance is to be returned to: Caleb Comas, Contract Administrator

City & Borough of Juneau, Engineering Dept., 155 S. Seward St., Juneau, AK 99801, caleb.comas@juneau.org, Fax, 907-586-4530.

Comments or additional information: _____

_____

For agency use only:

☐ Tax Clearance is granted

☐ Tax Clearance is not granted *(please have employer contact the department)*

☐ No account on file, liability unknown *(please have employer contact the department)*

☐ Employer has stated no employees, Tax Clearance not required.

Agency representative signature: _____ Date:_____

Agency representative title: _____

We are an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. labor.alaska.gov/estax

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, is provided in its entirety in SECTION 00830 – APPENDIX A.

The rates that are in effect 10 days prior to the final date for submission of bids are the rates that will apply to this project. These rates will apply for 24 calendar months from the date the project is awarded to a prime contractor. At the end of the initial 24-month period, the latest wage rates issued by the Alaska Department of Labor shall become effective for the next 24-month period. This process repeats itself until the project is completed.

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 to ADOL electronically or paper copies can be submitted by mail. To submit Title 36 documents and certified payrolls electronically, go to https://myalaska.state.ak.us/home/app.

The CONTRACTOR and each Subcontractor shall submit Certified Payrolls to Erich Schaal at Erich.Schaal@juneau.org upon request. If the Port Engineer does not receive the requested Certified Payrolls within five (5) working days, the Port Engineer will request the Certified Payrolls from ADOL. The CONTRACTOR shall be responsible for all costs charged by ADOL for delivery of the requested Certified Payrolls, including those costs for Subcontractors.

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
P.O. Box 11149
Juneau, AK 99811-1149
907-465-4842
http://labor.state.ak.us/lss/home.htm

and

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

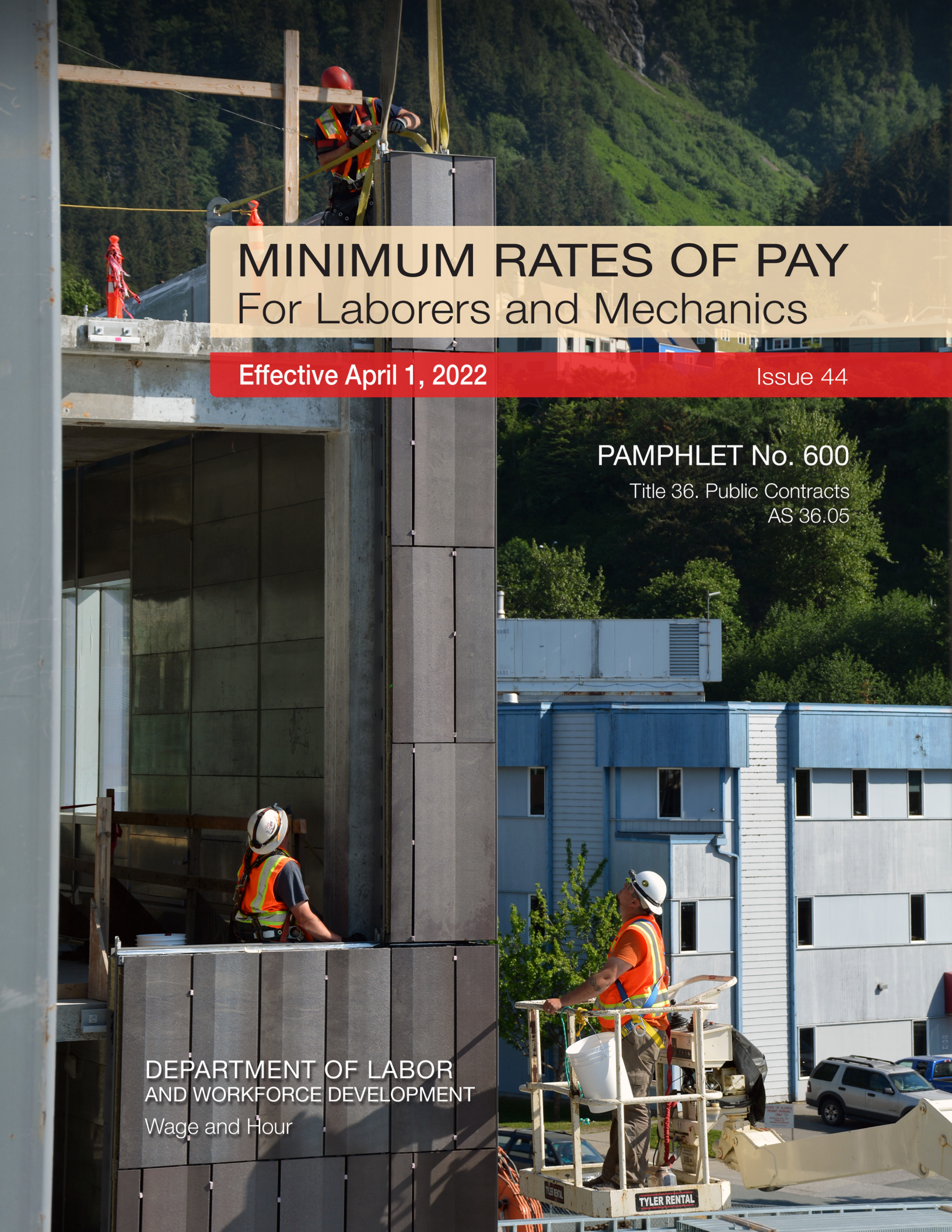
SECTION 00830

APPENDIX A

Laborers' & Mechanics'
Minimum Rates of Pay

Pamphlet 600

Effective April 1, 2022



MINIMUM RATES OF PAY
For Laborers and Mechanics

Effective April 1, 2022 Issue 44

PAMPHLET No. 600

Title 36. Public Contracts
AS 36.05

DEPARTMENT OF LABOR
AND WORKFORCE DEVELOPMENT
Wage and Hour

- This page intentionally left blank -

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Labor and Workforce Development

Office of the Commissioner

Post Office Box 111149
Juneau, Alaska 99811
Main: 907.465.2700
fax: 907.465-2784

April 1, 2022

TO ALL CONTRACTING AGENCIES:

At the Alaska Department of Labor and Workforce Development, our goal is putting Alaskans to work. This pamphlet is designed to help contractors awarded public construction contracts understand the most significant laws of the State of Alaska pertaining to prevailing wage.

This pamphlet identifies current prevailing wage rates for public construction contracts (any construction projects awarded for the State of Alaska or its political subdivisions, such as local governments and certain non-profit organizations). Because these rates may change in a subsequent determination, please be sure you are using the appropriate rates. The rates published in this edition become effective April 1, 2022.

The prevailing wage rates contained in this pamphlet are applicable to public construction projects with a final bid date of April 11, 2022, or later. As the law now provides, these rates will remain stable during the life of a contract or for 24 calendar months, whichever is shorter. **The 24-month period begins on the date the prime contract is awarded.** Upon expiration of the initial 24-month period, the latest wage rates issued by the department shall become effective for a subsequent 24-month period or until the original contract is completed, whichever occurs first. This process shall be repeated until the original contract is completed.

The term "original contract" means the signed contract that resulted from the original bid and any amendments, including changes of work scope, additions, extensions, change orders, and other instruments agreed to by the parties that have not been subject to subsequent open bid procedures.

If a higher federal rate is required due to partial federal funding or other federal participation, the higher rate must be paid.

For additional copies of this pamphlet go to: http://labor.state.ak.us/lss/pamp600.htm

For questions regarding prevailing wage or employment preference requirements, please contact the nearest Wage and Hour office. These offices are listed on Page x.

Sincerely,

Tamika L. Ledbetter

Dr. Tamika L. Ledbetter
Commissioner

- This page intentionally left blank -

Table of Contents

Note to Readers: The statutes and administrative regulations listed in this publication were taken from the official codes, as of the effective date of the publication. However, there may be errors or omissions that have not been identified and changes that occurred after the publication was printed. This publication is intended as an informational guide only and is not intended to serve as a precise statement of the statutes and regulations of the State of Alaska. To be certain of current laws and regulations, please refer to the official codes.

EXCERPTS FROM ALASKA LAW

Sec. 36.05.005. Applicability.
This chapter applies only to a public construction contract that exceeds $25,000.

Sec. 36.05.010. Wage rates on public construction.
A contractor or subcontractor who performs work on a public construction contract in the state shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.
All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

Sec. 36.05.045. Notice of work and completion; withholding of payment.

(a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed $5,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.

(b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.

(c) A contracting agency

(1) may release final payment of a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that

(A) the primary contractor has complied with (a) and (b) of this section;

(B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and

(C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and

(2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.

(d) The notice and filing fee required under (a) of this section may be filed after work has begun if
   (1) The public construction contract is for work undertaken in immediate response to an emergency; and
   (2) The notice and fees are filed not later than 14 days after the work has begun.

(e) A false statement made on a notice required by this section is punishable under AS 11.56.210.

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor and upon conviction is punishable by a fine of not less than $100 nor more than $1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

(a) The advertised specifications for a public construction contract that requires or involves the employment of mechanics, laborers, or field surveyors must contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.

(b) Repealed by §17 ch 142 SLA 1972.

(c) A public construction contract under (a) of this section must contain provisions that
   (1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;
   (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;
   (3) the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;
   (4) the state or a political subdivision shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the contractor or subcontractors the difference between
      (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and
      (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that 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 of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

(a) The state disbursing officer in the case of a state public construction contract and the local fiscal officer in the case of a political subdivision public construction contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.

(b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation, partnership, or association in which the person has an interest may not 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. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, mechanics, or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics, or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

Sec. 36.05.900. Definition.
In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

EXCERPTS FROM ALASKA ADMINISTRATIVE CODE

Notice:** Regulations relating to board and lodging and per diem went into effect on November 25, 2018. The new regulations are excerpted here

8 AAC 30.051. Purpose. The purpose of 8 AAC 30.052 – 8 AAC 30.056 is to ensure that wages paid to laborers, mechanics, and field surveyors do not fall below the prevailing rate of pay.

8 AAC 30.052. Board and lodging; remote sites. (a) A contractor on a public construction project located 65 or more road miles from the international airport closest to the project area in either Fairbanks, Juneau, or Anchorage, or that is inaccessible by road in a two-wheel drive vehicle, shall provide adequate board and lodging to each laborer, mechanic, or field surveyor while the person is employed on the project. If commercial lodging facilities are not available, the contractor shall provide temporary lodging facilities. Lodging facilities must comply with all applicable state and federal laws. For a highway project, the location of the project is measured from the midpoint of the project.

(b) A contractor is not required to provide board and lodging:

(1) to a laborer, mechanic, or field surveyor who is a domiciled resident of the project area; or

(2) on a laborer, mechanic, or field surveyor's scheduled days off, when the person can reasonably travel between the project and the person's permanent residence; for the purposes of this paragraph, "scheduled day off" means a day in which a person does not perform work on-site, is not required to remain at or near the job location for the benefit of the contractor, and is informed of the day off at least seven days before the day off.

(c) Upon a contractor's written request, the commissioner may waive the requirements of (a) of this section where:

(1) the project is inaccessible by road in a two-wheel drive vehicle, but the laborer, mechanic, or field surveyor can reasonably travel between the project and the person's permanent residence within one hour; or

(2) a laborer, mechanic, or field surveyor is not a domiciled resident of the project area, but has established permanent residence, with the intent to remain indefinitely, within 65 road miles of the project, or for a highway project, the mid-point of the project.

8 AAC 30.054. Per diem instead of board and lodging. (a) A contractor may pay a laborer, mechanic, or field surveyor per diem instead of providing board and lodging, when the following conditions are met:

(1) the department determines that per diem instead of board and lodging is an established practice for the work classification; the department shall publish and periodically revise its determinations in the pamphlet *Laborers and Mechanics Minimum Rates of Pay*;

(2) the contractor pays each laborer, mechanic, or field surveyor the appropriate per diem rate as published and periodically revised in the pamphlet *Laborers and Mechanics Minimum Rates of Pay*; and

(3) the contractor pays the per diem to each laborer, mechanic, or field surveyor on the same day that wages are paid.

(b) A contractor may not pay per diem instead of board and lodging on a highway project located

(1) west of Livengood on the Elliot Highway, AK-2;

(2) on the Dalton Highway, AK-11;

(3) north of milepost 20 on the Taylor Highway, AK-5;

(4) east of Chicken on the Top of the World Highway; or

(5) south of Tetlin Junction to the Alaska-Canada border on the Alaska Highway, AK-2.

8 AAC 30.056. Alternative arrangement. Upon a contractor's written request, the commissioner may approve an alternative board and lodging or per diem arrangement, provided

(1) the arrangement does not reduce the laborer, mechanic, or field surveyor's wages below the prevailing wage rate; and

(2) the laborer, mechanic, or field surveyor voluntarily enters into and signs the written arrangement; a labor organization representing laborers, mechanics, or field surveyors may enter into the written agreement on their behalf.

8 AAC 30.900. General definitions (selected excerpts only):

In this chapter and in AS 36

(22) "domiciled resident" means a person living within 65 road miles of a public construction project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the public construction project;

(23) "employed on the project" means the time period from the date the laborer, mechanic, or field surveyor first reports on-site to the project through the final date the person reports on-site to the project.

ADDITIONAL INFORMATION

PER DIEM

Notice: New regulations relating to board and lodging and per diem went into effect on November 25, 2018. The regulations provide a comprehensive set of requirements for the provision of board and lodging or per diem for workers on remote projects. Please refer to Alaska Administrative Code 8 AAC Chapter 30 and read the chapter carefully.

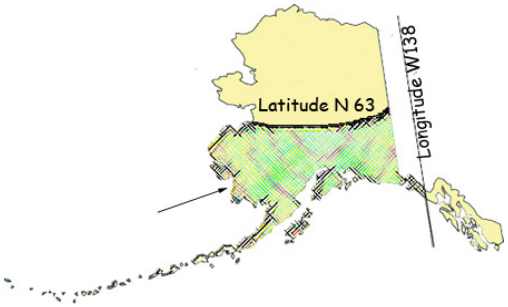
The Alaska Department of Labor and Workforce Development has determined that per diem is an established work practice for certain work classifications. These classifications are indicated throughout the Pamphlet by an asterisk (*) under the classification title. If all of the conditions of 8 AAC 30.054 are met, an employer may pay workers in these classifications per diem instead of providing board and lodging on a remote project.

Per Diem Rate: As of May 1st, 2019, the minimum per diem rate is $100.00 per day, or part thereof, the worker is employed on the project. In the event that a contractor provides lodging facilities, but no meals, the department will accept a payment of $48 per day for meals to meet the per diem requirements.

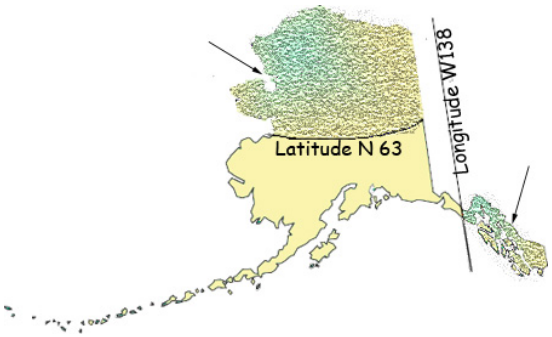
LABORER CLASSIFICATION CLARIFICATION

The laborer rates categorized in class code S1201-S1206 apply in one area of Alaska; the area that is south of N63 latitude and west of W138 Longitude. The laborer rates categorized in class code N1201-N1206 apply in two areas of Alaska; the Alaska areas north of N63 latitude and east of W138 longitude. The following graphic representations should assist with clarifying the applicable wage rate categories:

S1201-
S1206



N1201-
N1206



APPRENTICE RATES

Apprentice rates at less than the minimum prevailing rates may be paid to apprentices according to an apprentice program which has been registered and approved by the Commissioner of the Alaska Department of Labor and Workforce Development in writing or according to a bona fide apprenticeship program registered with the U.S. Department of Labor, Office of Apprenticeship Training. **Any employee listed on a payroll at an apprentice wage rate who is not registered as above shall be paid the journeyman prevailing minimum wage in that work classification.** Wage rates are based on prevailing crew makeup practices in Alaska and apply to work performed regardless of either the quality of the work performed by the employee or the titles or classifications which may be assigned to individual employees.

FRINGE BENEFIT PLANS

Contractors/subcontractors may compensate fringe benefits to their employees in any one of three methods. The fringe benefits may be paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wages.

Where fringe benefits are paid into approved plans, funds, or programs including union trust funds, the payments must be contributed at least monthly. If contractors submit their own payroll forms and are paying fringe benefits into approved plans, funds, or programs, the employer's certification must include, in addition to those requirements of 8 AAC 30.020(c), a statement that fringe benefit payments have been or will be paid at least monthly. Contractors who pay fringe benefits to a plan must ensure the plan is one approved by the Internal Revenue Service and that the plan meets the requirements of 8 AAC 30.025 (eff. 3/2/08) in order for payments to be credited toward the prevailing wage obligation.

SPECIAL PREVAILING WAGE RATE DETERMINATION

Special prevailing wage rate determinations may be requested for special projects or a special worker classification if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under 8 AAC 30.050(a) of this section. Requests for special wage rate determinations must be in writing and filed with the Commissioner at least 30 days before the award of the contract. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain:

(1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;
(2) a brief narrative explaining why special wage rates are necessary;
(3) the job class or classes involved;
(4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;
(5) the approximate number of employees who would be affected; and
(6) any other information which might be helpful in determining if special wage rates are appropriate.

Requests made pursuant to the above should be addressed to:

Director
Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour
P.O. Box 111149
Juneau, AK 99811-1149
-or-
Email: statewide.wagehour@alaska.gov

EMPLOYMENT PREFERENCE INFORMATION

In October 2019, the Alaska Attorney General issued a formal opinion stating that the Alaska Statutes 36.10.150 of the State's 90% Employment Preference law, also known as the Alaska Resident Hire law, violates both the U.S. and Alaska Constitutions. As a result, the state has stopped all enforcement activity.
A copy of the Attorney General opinion is found here:

http://law.alaska.gov/pdf/opinions/opinions_2019/19-005_AK-hire.pdf

Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour
Web site: http://labor.state.ak.us/lss/pamp600.htm

Anchorage	Juneau	Fairbanks
1251 Muldoon Road, Suite 113 Anchorage, Alaska 99504-2098 Phone: (907) 269-4900 Email: statewide.wagehour@alaska.gov	PO Box 111149 Juneau, Alaska 99811 Phone: (907) 465-4842 Email: statewide.wagehour@alaska.gov	Regional State Office Building 675 7th Ave., Station J-1 Fairbanks, Alaska 99701-4593 Phone: (907) 451-2886 Email: statewide.wagehour@alaska.gov

LABOR STANDARDS AND SAFETY NOTICE REQUESTS

If you would like to receive Wage and Hour or Mechanical Inspection **regulation notices** or **publications information**, they are available via electronic mail, by signing up in the GovDelivery System, https://public.govdelivery.com/accounts/AKDOL/subscriber/new and selecting topics *LSS – Wage and Hour – Forms and Publications*, *LSS – Mechanical Inspection Regulations*, or *LSS – Wage and Hour Regulations*.

Publications are also available online at http://labor.alaska.gov/lss/home.htm

DEBARMENT LIST

AS 36.05.090(b) states that "the state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees."

A person appearing on the following debarment list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state for three years from the date of debarment.

Company Name	Debarment Expires

No companies are currently debarred.

Laborers' & Mechanics' Minimum Rates of Pay

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Boilermakers	*See per diem note on last page							
						VAC	**SAF**	
A0101	Boilermaker (journeyman)	46.97	8.57	18.08	1.90	4.25	0.34	80.11
Bricklayers & Blocklayers	*See per diem note on last page							
						L&M		
A0201	Blocklayer	42.01	9.00	10.20	0.62	0.20		62.03
	Bricklayer Marble or Stone Mason Refractory Worker (Firebrick, Plastic, Castable, and Gunite Refractory Applications) Terrazzo Worker Tile Setter							
						L&M		
A0202	Tuck Pointer Caulker	42.01	9.00	10.20	0.62	0.20		62.03
	Cleaner (PCC)							
						L&M		
A0203	Marble & Tile Finisher	35.84	9.00	10.20	0.62	0.20		55.86
	Terrazzo Finisher							
						L&M		
A0204	Torginal Applicator	35.84	9.00	10.20	0.62	0.20		55.86
Carpenters, Region I (North of 63 latitude)	*See per diem note on last page							
						L&M	**SAF**	
N0301	Carpenter (journeyman)	42.34	10.08	15.23	1.75	0.20	0.20	69.80
	Lather/Drywall/Acoustical							
Carpenters, Region II (South of N63 latitude)	*See per diem note on last page							
						L&M	**SAF**	
S0301	Carpenter (journeyman)	42.34	10.08	15.77	1.75	0.20	0.20	70.34
	Lather/Drywall/Acoustical							
Cement Masons	*See per diem note on last page							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Cement Masons							
	*See per diem note on last page						
						L&M	
A0401	Group I, including:	40.13	8.70	11.80	1.43	0.10	62.16
	Application of Sealing Compound						
	Application of Underlayment						
	Building, General						
	Cement Finisher						
	Cement Mason (journeyman)						
	Concrete						
	Concrete Paving						
	Concrete Polishing						
	Concrete Repair						
	Curb & Gutter, Sidewalk						
	Curing of All Concrete						
	General Concrete Pour Tender						
	Grouting & Caulking of Tilt-Up Panels						
	Grouting of All Plates						
	Patching Concrete						
	Screed Pin Setter						
	Screeder or Rodder						
	Spackling/Skim Coating						
						L&M	
A0402	Group II, including:	40.13	8.70	11.80	1.43	0.10	62.16
	Form Setter						
						L&M	
A0403	Group III, including:	40.13	8.70	11.80	1.43	0.10	62.16
	Concrete Saw Cutter Operator (All Control Joints and Self-powered)						
	Curb & Gutter Machine						
	Floor Grinder						
	Pneumatic Power Tools						
	Power Chipping & Bushing						
	Sand Blasting Architectural Finish						
	Screed & Rodding Machine Operator						
	Troweling Machine Operator (all concrete surfaces)						
						L&M	
A0404	Group IV, including:	40.13	8.70	11.80	1.43	0.10	62.16
	Acoustical or Imitation Acoustical Finish						
	Application of All Composition Mastic						
	Application of All Epoxy Material						
	Application of All Plastic Material						
	Finish Colored Concrete						
	Gunite Nozzleman						
	Hand Powered Grinder						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Cement Masons							
	*See per diem note on last page						
A0404	Group IV, including:	40.13	8.70	11.80	1.43	L&M 0.10	62.16
	Preparing, scratching and browsing of all ceilings and walls, finished with terrazo or tile						
	Tunnel Worker						
A0405	Group V, including:	40.13	8.70	11.80	1.43	L&M 0.10	62.16
	Casting and finishing						
	EIFS Systems						
	Finishing of all interior and exterior plastering						
	Fireproofing (Pryocrete, Cafco, Albi-Clad, sprayed fiberglass)						
	Gypsum, Portland Cement						
	Kindred material and products						
	Operation and control of all types of plastering machines, including power tools and floats, used by the industry						
	Overcoating and maintenance of interior/exterior plaster surfaces						
	Plasterer						
	Veneer plastering process (Rapid Plaster, U.S.G. "Imperial Systems", and Pabcoat Systems")						
	Venetian plaster and color-integrated Italian/Middle-Eastern line plaster						
Culinary Workers							
A0501	Baker/Cook	28.37	7.31	7.56		LEG	43.24
A0503	General Helper	25.07	7.31	7.56		LEG	39.94
	Housekeeper						
	Janitor						
	Kitchen Helper						
A0504	Head Cook	28.97	7.31	7.56		LEG	43.84
A0505	Head Housekeeper	25.45	7.31	7.56		LEG	40.32
	Head Kitchen Help						
Dredgemen							
	*See per diem note on last page						
A0601	Assistant Engineer	42.76	11.05	13.75	1.00	L&M 0.10	0.05 68.71
	Craneman						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Dredgemen								
	*See per diem note on last page							
A0601	Assistant Engineer	42.76	11.05	13.75	1.00	**L&M** 0.10	0.05	68.71
	Electrical Generator Operator (primary pump/power barge/dredge)							
	Engineer							
	Welder							
A0602	Assistant Mate (deckhand)	41.60	11.05	13.75	1.00	**L&M** 0.10	0.05	67.55
A0603	Fireman	42.04	11.05	13.75	1.00	**L&M** 0.10	0.05	67.99
A0605	Leverman Clamshell	45.29	11.05	13.75	1.00	**L&M** 0.10	0.05	71.24
A0606	Leverman Hydraulic	43.53	11.05	13.75	1.00	**L&M** 0.10	0.05	69.48
A0607	Mate & Boatman	42.76	11.05	13.75	1.00	**L&M** 0.10	0.05	68.71
A0608	Oiler (dredge)	42.04	11.05	13.75	1.00	**L&M** 0.10	0.05	67.99
Electricians								
	*See per diem note on last page							
A0701	Inside Cable Splicer	42.77	14.23	13.92	0.95	**L&M** 0.20	**LEG** 0.15	72.22
A0702	Inside Journeyman Wireman, including:	42.44	14.23	14.16	0.95	**L&M** 0.20	**LEG** 0.15	72.13
	Technicians (including use of drones in electrical construction)							
A0703	Power Cable Splicer	63.04	14.23	19.08	0.95	**L&M** 0.25	**LEG** 0.15	97.70
A0704	Tele Com Cable Splicer	50.53	14.23	17.17	0.95	**L&M** 0.20	**LEG** 0.15	83.23
A0705	Power Journeyman Lineman, including:	61.29	14.23	19.03	0.95	**L&M** 0.25	**LEG** 0.15	95.90
	Power Equipment Operator							
	Technician (including use of drones in electrical construction)							
A0706	Tele Com Journeyman Lineman, including:	48.78	14.23	17.11	0.95	**L&M** 0.20	**LEG** 0.15	81.42
	Technician (including use of drones in telecommunications construction)							
	Tele Com Equipment Operator							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Electricians								
	*See per diem note on last page							
						L&M	**LEG**	
A0707	Straight Line Installer - Repairman	48.78	14.23	17.11	0.95	0.20	0.15	81.42
						L&M	**LEG**	
A0708	Powderman	59.29	14.23	18.97	0.95	0.25	0.15	93.84
						L&M	**LEG**	
A0710	Material Handler	26.57	13.92	5.80	0.15	0.15	0.15	46.74
						L&M	**LEG**	
A0712	Tree Trimmer Groundman	29.12	14.23	13.35	0.15	0.15	0.15	57.15
						L&M	**LEG**	
A0713	Journeyman Tree Trimmer	38.05	14.23	13.62	0.15	0.15	0.15	66.35
						L&M	**LEG**	
A0714	Vegetation Control Sprayer	41.60	14.23	13.73	0.15	0.15	0.15	70.01
						L&M	**LEG**	
A0715	Inside Journeyman Communications CO/PBX	41.02	14.23	13.87	0.95	0.20	0.15	70.42
Elevator Workers								
	*See per diem note on last page							
						L&M	**VAC**	
A0802	Elevator Constructor	44.21	16.02	20.21	0.65	0.60	4.90	86.59
						L&M	**VAC**	
A0803	Elevator Constructor Mechanic	63.16	16.02	20.21	0.65	0.60	7.01	107.65
Heat & Frost Insulators/Asbestos Workers								
	*See per diem note on last page							
						IAF	**LML**	
A0902	Asbestos Abatement-Mechanical Systems	39.50	9.24	11.12	1.20	0.14	0.05	61.25
						IAF	**LML**	
A0903	Asbestos Abatement/General Demolition All Systems	39.50	9.24	11.12	1.20	0.14	0.05	61.25
						IAF	**LML**	
A0904	Insulator, Group II	39.50	9.24	11.12	1.20	0.14	0.05	61.25
						IAF	**LML**	
A0905	Fire Stop	39.50	9.24	11.12	1.20	0.14	0.05	61.25
IronWorkers								
	*See per diem note on last page							
						L&M	**IAF**	
A1101	Ironworkers, including:	40.82	9.51	24.28	0.76	0.20	0.24	75.81

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
IronWorkers								
	*See per diem note on last page							
						L&M	**IAF**	
A1101	Ironworkers, including:	40.82	9.51	24.28	0.76	0.20	0.24	75.81
	Bender Operators							
	Bridge & Structural							
	Hangar Doors							
	Hollow Metal Doors							
	Industrial Doors							
	Machinery Mover							
	Ornamental							
	Reinforcing							
	Rigger							
	Sheeter							
	Signalman							
	Stage Rigger							
	Toxic Haz-Mat Work							
	Welder							
						L&M	**IAF**	
A1102	Helicopter	41.82	9.51	24.28	0.76	0.20	0.24	76.81
	Helicopter (used for rigging and setting)							
	Tower (energy producing windmill type towers to include nacelle and blades)							
						L&M	**IAF**	
A1103	Fence/Barrier Installer	37.32	9.51	24.28	0.76	0.20	0.24	72.31
						L&M	**IAF**	
A1104	Guard Rail Layout Man	38.06	9.51	24.28	0.76	0.20	0.24	73.05
						L&M	**IAF**	
A1105	Guard Rail Installer	38.32	9.51	24.28	0.76	0.20	0.24	73.31
Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
	*See per diem note on last page							
						L&M	**LEG**	
N1201	Group I, including:	33.00	8.95	21.16	1.40	0.20	0.20	64.91
	Asphalt Worker (shovelman, plant crew)							
	Brush Cutter							
	Camp Maintenance Laborer							
	Carpenter Tender or Helper							
	Choke Setter, Hook Tender, Rigger, Signalman							
	Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)							
	Crusher Plant Laborer							
	Demolition Laborer							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	
Laborers (The Alaska areas north of N63 latitude and east of W138 longitude) *See per diem note on last page								
N1201	Group I, including:	33.00	8.95	21.16	1.40	0.20	0.20	64.91
	Ditch Digger							
	Dumpman							
	Environmental Laborer (hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro-seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							
	Portable or Chemical Toilet Serviceman							
	Pump Man or Mixer Man							
	Railroad Track Laborer							
	Sandblast, Pot Tender							
	Saw Tender							
	Slurry Work							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							
						L&M	LEG	
N1202	Group II, including:	34.00	8.95	21.16	1.40	0.20	0.20	65.91
	Burning & Cutting Torch							
	Cement or Lime Dumper or Handler (sack or bulk)							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Choker Splicer							
	Chucktender (wagon, air-track & hydraulic drills)							
	Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)							
	Culvert Pipe Laborer							
	Cured Inplace Pipelayer							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	
Laborers (The Alaska areas north of N63 latitude and east of W138 longitude) *See per diem note on last page								
N1202	Group II, including:	34.00	8.95	21.16	1.40	0.20	0.20	65.91
	Environmental Laborer (asbestos, marine work)							
	Floor Preparation, Core Drilling							
	Foam Gun or Foam Machine Operator							
	Green Cutter (dam work)							
	Gunite Operator							
	Hod Carrier							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)							
	Mason Tender & Mud Mixer (sewer work)							
	Pilot Car							
	Pipelayer Helper							
	Plasterer, Bricklayer & Cement Finisher Tender							
	Powderman Helper							
	Power Saw Operator							
	Railroad Switch Layout Laborer							
	Sandblaster							
	Scaffold Building & Erecting							
	Sewer Caulker							
	Sewer Plant Maintenance Man							
	Thermal Plastic Applicator							
	Timber Faller, Chainsaw Operator, Filer							
	Timberman							
						L&M	LEG	
N1203	Group III, including:	34.90	8.95	21.16	1.40	0.20	0.20	66.81
	Bit Grinder							
	Camera/Tool/Video Operator							
	Guardrail Machine Operator							
	High Rigger & Tree Topper							
	High Scaler							
	Multiplate							
	Plastic Welding							
	Slurry Seal Squeegee Man							
	Traffic Control Supervisor							
	Welding Certified (in connection with laborer's work)							
						L&M	LEG	
N1204	Group IIIA	38.18	8.95	21.16	1.40	0.20	0.20	70.09
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
*See per diem note on last page

N1204	Group IIIA	38.18	8.95	21.16	1.40	0.20	0.20	70.09

Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)
Pioneer Drilling & Drilling Off Tugger (all type drills)
Pipelayers
Powderman (Employee Possessor)
Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)
Traffic Control Supervisor, DOT Qualified

N1205	Group IV	22.57	8.95	21.16	1.40	0.20	0.20	54.48

Final Building Cleanup
Permanent Yard Worker

N1206	Group IIIB	41.97	6.24	21.16	1.40	0.20	0.20	71.17

Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)
Federal Powderman (Responsible Person in Charge)
Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)
Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)
Stake Hopper

Laborers (The area that is south of N63 latitude and west of W138 longitude)
*See per diem note on last page

S1201	Group I, including:	33.00	8.95	21.16	1.40	0.20	0.20	64.91

Asphalt Worker (shovelman, plant crew)
Brush Cutter
Camp Maintenance Laborer
Carpenter Tender or Helper
Choke Setter, Hook Tender, Rigger, Signalman
Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)
Crusher Plant Laborer
Demolition Laborer
Ditch Digger
Dumpman
Environmental Laborer (hazard/toxic waste, oil spill)
Fence Installer
Fire Watch Laborer
Flagman

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	

Laborers (The area that is south of N63 latitude and west of W138 longitude)
*See per diem note on last page

S1201	Group I, including:	33.00	8.95	21.16	1.40	0.20	0.20	64.91

Form Stripper
General Laborer
Guardrail Laborer, Bridge Rail Installer
Hydro-seeder Nozzleman
Laborer, Building
Landscaper or Planter
Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)
Material Handler
Pneumatic or Power Tools
Portable or Chemical Toilet Serviceman
Pump Man or Mixer Man
Railroad Track Laborer
Sandblast, Pot Tender
Saw Tender
Slurry Work
Steam Cleaner Operator
Steam Point or Water Jet Operator
Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)
Tank Cleaning
Utiliwalk & Utilidor Laborer
Watchman (construction projects)
Window Cleaner

						L&M	LEG	
S1202	Group II, including:	34.00	8.95	21.16	1.40	0.20	0.20	65.91

Burning & Cutting Torch
Cement or Lime Dumper or Handler (sack or bulk)
Certified Erosion Sediment Control Lead (CESCL Laborer)
Choker Splicer
Chucktender (wagon, air-track & hydraulic drills)
Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)
Culvert Pipe Laborer
Cured Inplace Pipelayer
Environmental Laborer (asbestos, marine work)
Floor Preparation, Core Drilling
Foam Gun or Foam Machine Operator
Green Cutter (dam work)
Gunite Operator
Hod Carrier

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

S1202	Group II, including:	34.00	8.95	21.16	1.40	0.20	0.20	65.91

Jackhammer/Chipping Gun or Pavement Breaker
Laser Instrument Operator
Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)
Mason Tender & Mud Mixer (sewer work)
Pilot Car
Pipelayer Helper
Plasterer, Bricklayer & Cement Finisher Tender
Powderman Helper
Power Saw Operator
Railroad Switch Layout Laborer
Sandblaster
Scaffold Building & Erecting
Sewer Caulker
Sewer Plant Maintenance Man
Thermal Plastic Applicator
Timber Faller, Chainsaw Operator, Filer
Timberman

S1203	Group III, including:	34.90	8.95	21.16	1.40	0.20	0.20	66.81

Bit Grinder
Camera/Tool/Video Operator
Guardrail Machine Operator
High Rigger & Tree Topper
High Scaler
Multiplate
Plastic Welding
Slurry Seal Squeegee Man
Traffic Control Supervisor
Welding Certified (in connection with laborer's work)

S1204	Group IIIA	38.18	8.95	21.16	1.40	0.20	0.20	70.09

Asphalt Raker, Asphalt Belly Dump Lay Down
Drill Doctor (in the field)
Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)
Pioneer Drilling & Drilling Off Tugger (all type drills)
Pipelayers
Powderman (Employee Possessor)
Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Laborers (The area that is south of N63 latitude and west of W138 longitude) *See per diem note on last page								
						L&M	**LEG**	
S1204	Group IIIA	38.18	8.95	21.16	1.40	0.20	0.20	70.09
	Traffic Control Supervisor, DOT Qualified							
						L&M	**LEG**	
S1205	Group IV	22.57	8.95	21.16	1.40	0.20	0.20	54.48
	Final Building Cleanup Permanent Yard Worker							
						L&M	**LEG**	
S1206	Group IIIB	41.97	6.24	21.16	1.40	0.20	0.20	71.17
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours) Federal Powderman (Responsible Person in Charge) Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones) Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours) Stake Hopper							
Millwrights *See per diem note on last page								
						L&M		
A1251	Millwright (journeyman)	44.00	10.08	12.28	1.10	0.40	0.05	67.91
						L&M		
A1252	Millwright Welder	45.00	10.08	12.28	1.10	0.40	0.05	68.91
Painters, Region I (North of N63 latitude) *See per diem note on last page								
						L&M		
N1301	Group I, including:	34.25	8.85	15.10	1.08	0.07		59.35
	Brush General Painter Hand Taping Hazardous Material Handler Lead-Based Paint Abatement Roll							
						L&M		
N1302	Group II, including:	34.77	8.85	15.10	1.08	0.07		59.87
	Bridge Painter Epoxy Applicator General Drywall Finisher Hand/Spray Texturing Industrial Coatings Specialist							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Painters, Region I (North of N63 latitude) *See per diem note on last page							
						L&M	
N1302	Group II, including:	34.77	8.85	15.10	1.08	0.07	59.87
	Machine/Automatic Taping Pot Tender Sandblasting Specialty Painter Spray Structural Steel Painter Wallpaper/Vinyl Hanger						
N1304	Group IV, including:	41.16	8.85	18.21	1.05	0.05	69.32
	Glazier Storefront/Automatic Door Mechanic						
N1305	Group V, including:	39.86	8.85	5.00	1.10	0.10	54.91
	Carpet Installer Floor Coverer Heat Weld/Cove Base Linoleum/Soft Tile Installer						
N1306	Group VI, including:	48.17	9.90	5.00	1.10	0.10	64.27
	Traffic Control Striper						
Painters, Region II (South of N63 latitude) *See per diem note on last page							
						L&M	
S1301	Group I, including :	31.39	8.85	15.95	1.08	0.07	57.34
	Brush General Painter Hand Taping Hazardous Material Handler Lead-Based Paint Abatement Roll Spray						
						L&M	
S1302	Group II, including :	32.64	8.85	15.95	1.08	0.07	58.59
	General Drywall Finisher Hand/Spray Texturing Machine/Automatic Taping Wallpaper/Vinyl Hanger						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Painters, Region II (South of N63 latitude) *See per diem note on last page							
						L&M	
S1303	Group III, including :	32.74	8.85	15.95	1.08	0.07	58.69
	Bridge Painter Epoxy Applicator Industrial Coatings Specialist Pot Tender Sandblasting Specialty Painter Structural Steel Painter						
						L&M	
S1304	Group IV, including:	41.37	8.85	17.25	1.08	0.07	68.62
	Glazier Storefront/Automatic Door Mechanic						
						L&M	
S1305	Group V, including:	39.86	8.85	5.00	1.10	0.10	54.91
	Carpet Installer Floor Coverer Heat Weld/Cove Base Linoleum/Soft Tile Installer						
S1306	Group VI, including:	48.17	9.90	5.00	1.10	0.10	64.27
	Traffic Control Striper						
Piledrivers *See per diem note on last page							
						L&M	**IAF**
A1401	Piledriver	42.34	10.08	15.23	1.75	0.20	0.20 69.80
	Assistant Dive Tender Carpenter/Piledriver Rigger Sheet Stabber Skiff Operator						
						L&M	**IAF**
A1402	Piledriver-Welder/Toxic Worker	43.34	10.08	15.23	1.75	0.20	0.20 70.80
						L&M	**IAF**
A1403	Remotely Operated Vehicle Pilot/Technician	46.65	10.08	15.23	1.75	0.20	0.20 74.11
	Single Atmosphere Suit, Bell or Submersible Pilot						
						L&M	**IAF**
A1404	Diver (working) **See note on last page	86.45	10.08	15.23	1.75	0.20	0.20 113.91

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Piledrivers								
	*See per diem note on last page							
						L&M	**IAF**	
A1405	Diver (standby) **See note on last page	46.65	10.08	15.23	1.75	0.20	0.20	74.11
						L&M	**IAF**	
A1406	Dive Tender **See note on last page	45.65	10.08	15.23	1.75	0.20	0.20	73.11
						L&M	**IAF**	
A1407	Welder (American Welding Society, Certified Welding Inspector)	47.90	10.08	15.23	1.75	0.20	0.20	75.36
Plumbers, Region I (North of N63 latitude)								
	*See per diem note on last page							
						L&M	**S&L**	
N1501	Journeyman Pipefitter	42.91	11.75	17.45	1.50	0.65		74.26
	Plumber							
	Welder							
Plumbers, Region II (South of N63 latitude)								
	*See per diem note on last page							
						L&M		
S1501	Journeyman Pipefitter	41.00	11.38	15.27	1.55	0.20		69.40
	Plumber							
	Welder							
Plumbers, Region IIA (1st Judicial District)								
	*See per diem note on last page							
						L&M		
X1501	Journeyman Pipefitter	40.82	13.37	11.75	2.50	0.24		68.68
	Plumber							
	Welder							
Power Equipment Operators								
	*See per diem note on last page							
						L&M		
A1601	Group I, including:	43.53	11.05	13.75	1.00	0.10	0.05	69.48
	Asphalt Roller: Breakdown, Intermediate, and Finish							
	Back Filler							
	Barrier Machine (Zipper)							
	Beltcrete with Power Pack & similar conveyors							
	Bending Machine							
	Boat Coxswain							
	Bulldozer							
	Cableways, Highlines & Cablecars							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M		
A1601	Group I, including:	43.53	11.05	13.75	1.00	0.10	0.05	69.48

Power Equipment Operators

*See per diem note on last page

Cleaning Machine

Coating Machine

Concrete Hydro Blaster

Cranes (45 tons & under or 150 feet of boom & under (including jib & attachments))

(a) Hydralifts or Transporters, (all track or truck type)

(b) Derricks

(c) Overhead

Crushers

Deck Winches, Double Drum

Ditching or Trenching Machine (16 inch or over)

Drag Scraper, Yarder, and similar types

Drilling Machines, Core, Cable, Rotary and Exploration

Finishing Machine Operator, Concrete Paving, Laser Screed, Sidewalk, Curb & Gutter Machine

Grade Checker and/or Line and Grade including Drone

Helicopters

Hover Craft, Flex Craft, Loadmaster, Air Cushion, All-Terrain Vehicle, Rollagon, Bargecable, Nodwell, & Snow Cat

Hydro Ax, Feller Buncher & similar

Hydro Excavation (Vac-Truck and Similar)

Loaders (2 1/2 yards through 5 yards, including all attachments):

(a) Forklifts (with telescopic boom & swing attachment)

(b) Front End & Overhead, (2-1/2 yards through 5 yards)

(c) Loaders, (with forks or pipe clamp)

(d) Loaders, (elevating belt type, Euclid & similar types)

Material Transfer Vehicle (Elevating Grader, Pickup Machine, and similar types)

Mechanic, Welder, Bodyman, Electrical, Camp & Maintenance Engineer

Micro Tunneling Machine

Mixers: Mobile type with hoist combination

Motor Patrol Grader

Mucking Machine: Mole, Tunnel Drill, Horizontal/Directional Drill Operator and/or Shield

Off-Road Hauler (including Articulating and Haul Trucks)

Operator on Dredges

Piledriver Engineer, L.B. Foster, Puller or similar paving breaker

Plant Operator (Asphalt & Concrete)

Power Plant, Turbine Operator 200 k.w & over (power plants or combination of power units over 300 k.w.)

Remote Controlled Equipment

Scraper (through 40 yards)

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Power Equipment Operators *See per diem note on last page								
						L&M		
A1601	Group I, including:	43.53	11.05	13.75	1.00	0.10	0.05	69.48
	Service Oiler/Service Engineer Shot Blast Machine Shovels, Backhoes, Excavators with all attachments, and Gradealls (3 yards & under) Sideboom (under 45 tons) Sub Grader (Gurries & similar types) Tack Tractor Truck Mounted Concrete Pump, Conveyor/Tele-belt, & Creter Wate Kote Machine							
						L&M		
A1602	Group IA, including:	45.29	11.05	13.75	1.00	0.10	0.05	71.24
	Camera/Tool/Video Operator (Slipline) Certified Welder, Electrical Mechanic, Camp Maintenance Engineer, Mechanic (over 10,000 hours) Cranes (over 45 tons or 150 feet including jib & attachments) (a) Clamshells & Draglines (over 3 yards) (b) Tower Cranes Licensed Water/Waste Water Treatment Operator Loaders (over 5 yards) Motor Patrol Grader, Dozer, Grade Tractor (finish: when finishing to final grade and/or to hubs, or for asphalt) Power Plants (1000 k.w. & over) Profiler, Reclaimer, and Roto-Mill Quad Scrapers (over 40 yards) Screed Shovels, Backhoes, Excavators with all attachments (over 3 yards) Sidebooms (over 45 tons) Slip Form Paver, C.M.I. & similar types Topside (Asphalt Paver, Slurry machine, Spreaders, and similar types)							
						L&M		
A1603	Group II, including:	42.76	11.05	13.75	1.00	0.10	0.05	68.71
	Boiler - Fireman Cement Hogs & Concrete Pump Operator Conveyors (except those listed in Group I) Hoists on Steel Erection, Towermobiles & Air Tuggers Horizontal/Directional Drill Locator Locomotives, Rod & Geared Engines Mixers Screening, Washing Plant							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Power Equipment Operators *See per diem note on last page								
						L&M		
A1603	Group II, including:	42.76	11.05	13.75	1.00	0.10	0.05	68.71
	Sideboom (cradling rock drill, regardless of size)							
	Skidder							
	Trenching Machines (under 16 inches)							
	Water/Waste Water Treatment Operator							
						L&M		
A1604	Group III, including:	42.04	11.05	13.75	1.00	0.10	0.05	67.99
	"A" Frame Trucks, Deck Winches							
	Bombardier (tack or tow rig)							
	Boring Machine							
	Brooms, Power (sweeper, elevator, vacuum, or similar)							
	Bump Cutter							
	Compressor							
	Farm Tractor							
	Forklift, Industrial Type							
	Gin Truck or Winch Truck (with poles when used for hoisting)							
	Hoists, Air Tuggers, Elevators							
	Loaders:							
	(a) Elevating-Athey, Barber Greene & similar types							
	(b) Forklifts or Lumber Carrier (on construction job sites)							
	(c) Forklifts, (with tower)							
	(d) Overhead & Front End, (under 2-l/2 yards)							
	Locomotives: Dinkey (air, steam, gas & electric) Speeders							
	Mechanics, Light Duty							
	Oil, Blower Distribution							
	Posthole Digger, Mechanical							
	Pot Fireman (power agitated)							
	Power Plant, Turbine Operator, (under 200 k.w.)							
	Pumps, Water							
	Roller (other than Asphalt)							
	Saws, Concrete							
	Skid Hustler							
	Skid Steer (with all attachments)							
	Stake Hopper							
	Straightening Machine							
	Tow Tractor							
						L&M		
A1605	Group IV, including:	35.83	11.05	13.75	1.00	0.10	0.05	61.78
	Crane Assistant Engineer/Rig Oiler							
	Drill Helper							
	Parts & Equipment Coordinator							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Power Equipment Operators *See per diem note on last page								
						L&M		
A1605	Group IV, including:	35.83	11.05	13.75	1.00	0.10	0.05	61.78
	Spotter							
	Steam Cleaner							
	Swamper (on trenching machines or shovel type equipment)							
Roofers *See per diem note on last page								
						L&M		
A1701	Roofer & Waterproofer	44.62	13.75	3.91	0.81	0.10	0.06	63.25
						L&M		
A1702	Roofer Material Handler	31.23	13.75	3.91	0.81	0.10	0.06	49.86
Sheet Metal Workers, Region I (North of N63 latitude) *See per diem note on last page								
						L&M		
N1801	Sheet Metal Journeyman	49.04	11.85	14.61	1.80	0.12		77.42
	Air Balancing and duct cleaning of HVAC systems							
	Brazing, soldering or welding of metals							
	Demolition of sheet metal HVAC systems							
	Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work							
	Fabrication and installation of heating, ventilation and air conditioning ducts and equipment							
	Fabrication and installation of louvers and hoods							
	Fabrication and installation of sheet metal lagging							
	Fabrication and installation of stainless steel commercial or industrial food service equipment							
	Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work							
	Metal lavatory partitions							
	Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work							
	Sheet Metal shelving							
	Sheet Metal venting, chimneys and breaching							
	Skylight installation							
Sheet Metal Workers, Region II (South of N63 latitude) *See per diem note on last page								
						L&M		
S1801	Sheet Metal Journeyman	43.75	11.85	14.39	1.68	0.43		72.10
	Air Balancing and duct cleaning of HVAC systems							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Sheet Metal Workers, Region II (South of N63 latitude) *See per diem note on last page							
S1801	Sheet Metal Journeyman	43.75	11.85	14.39	1.68	L&M 0.43	72.10
	Brazing, soldering or welding of metals Demolition of sheet metal HVAC systems Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work Fabrication and installation of heating, ventilation and air conditioning ducts and equipment Fabrication and installation of louvers and hoods Fabrication and installation of sheet metal lagging Fabrication and installation of stainless steel commercial or industrial food service equipment Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work Metal lavatory partitions Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work Sheet Metal shelving Sheet Metal venting, chimneys and breaching Skylight installation						
Sprinkler Fitters *See per diem note on last page							
A1901	Sprinkler Fitter	49.10	10.55	18.15	0.52	L&M 0.25	78.57
Surveyors *See per diem note on last page							
A2001	Chief of Parties	46.16	12.23	13.64	1.15	L&M 0.10	73.28
A2002	Party Chief	44.57	12.23	13.64	1.15	L&M 0.10	71.69
A2003	Line & Grade Technician/Office Technician/GPS, Drones	43.97	12.23	13.64	1.15	L&M 0.10	71.09
A2004	Associate Party Chief (including Instrument Person & Head Chain Person)/Stake Hop/Grademan	41.85	12.23	13.64	1.15	L&M 0.10	68.97
A2006	Chain Person (for crews with more than 2 people)	37.51	12.23	13.64	1.15	L&M 0.10	64.63

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Truck Drivers							
	*See per diem note on last page						
						L&M	
A2101	Group I, including:	42.94	12.23	13.64	1.15	0.10	70.06
	Air/Sea Traffic Controllers						
	Ambulance/Fire Truck Driver (EMT certified)						
	Boat Coxswain						
	Captains & Pilots (air & water)						
	Deltas, Commanders, Rollagons, & similar equipment (when pulling sleds, trailers or similar equipment)						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) over 40 yards up to & including 60 yards						
	Helicopter Transporter						
	Liquid Vac Truck/Super Vac Truck						
	Material Coordinator or Purchasing Agent						
	Ready-mix (over 12 yards up to & including 15 yards) (over 15 yards to be negotiated)						
	Semi with Double Box Mixer						
	Tireman, Heavy Duty/Fueler						
	Water Wagon (250 Bbls and above)						
						L&M	
A2102	Group 1A including:	44.21	12.23	13.64	1.15	0.10	71.33
	Dump Trucks (including rockbuggy, side dump, belly dump & trucks with pups) over 60 yards up to & including 100 yards (over 100 yards to be negotiated)						
	Jeeps (driver under load)						
	Lowboys, including tractor attached trailers & jeeps, up to & including 12 axles (over 12 axles or 150 tons to be negotiated)						
						L&M	
A2103	Group II, including:	41.68	12.23	13.64	1.15	0.10	68.80
	All Deltas, Commanders, Rollagons, & similar equipment						
	Batch Trucks (8 yards & up)						
	Batch Trucks (up to & including 7 yards)						
	Boom Truck/Knuckle Truck (over 5 tons)						
	Cacasco Truck/Heat Stress Truck						
	Construction and Material Safety Technician						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) over 20 yards up to & including 40 yards						
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating over 5 tons)						
	Mechanics						
	Oil Distributor Driver						
	Partsman						
	Ready-mix (up to & including 12 yards)						
	Stringing Truck						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Truck Drivers	*See per diem note on last page						
						L&M	
A2103	Group II, including:	41.68	12.23	13.64	1.15	0.10	68.80
	Turn-O-Wagon or DW-10 (not self loading)						
						L&M	
A2104	Group III, including:	40.86	12.23	13.64	1.15	0.10	67.98
	Boom Truck/Knuckle Truck (up to & including 5 tons)						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) over 10 yards up to & including 20 yards						
	Expeditor (electrical & pipefitting materials)						
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating 5 tons & under)						
	Greaser - Shop						
	Semi or Truck & Trailer						
	Thermal Plastic Layout Technician						
	Traffic Control Technician						
	Trucks/Jeeps (push or pull)						
						L&M	
A2105	Group IV, including:	40.28	12.23	13.64	1.15	0.10	67.40
	Air Cushion or similar type vehicle						
	All Terrain Vehicle						
	Buggymobile						
	Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment (over 5 tons)						
	Bus Operator (over 30 passengers)						
	Cement Spreader, Dry						
	Combination Truck-Fuel & Grease						
	Compactor (when pulled by rubber tired equipment)						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) up to & including 10 yards						
	Dumpster						
	Expeditor (general)						
	Fire Truck/Ambulance Driver						
	Flat Beds, Dual Rear Axle						
	Foam Distributor Truck Dual Axle						
	Front End Loader with Fork						
	Grease Truck						
	Hydro Seeder, Dual Axle						
	Hyster Operators (handling bulk aggregate)						
	Loadmaster (air & water operations)						
	Lumber Carrier						
	Ready-mix, (up to & including 7 yards)						
	Rigger (air/water/oilfield)						
	Tireman, Light Duty						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Truck Drivers							
	*See per diem note on last page						
						L&M	
A2105	Group IV, including:	40.28	12.23	13.64	1.15	0.10	67.40
	Track Truck Equipment						
	Truck Vacuum Sweeper						
	Warehouseperson						
	Water Truck (Below 250 Bbls)						
	Water Truck (straight)						
	Water Wagon, Semi						
						L&M	
A2106	Group V, including:	39.52	12.23	13.64	1.15	0.10	66.64
	Buffer Truck						
	Bull Lifts & Fork Lifts, Fork Lifts with Power Boom & Swing Attachments (up to & including 5 tons)						
	Bus Operator (up to 30 passengers)						
	Farm Type Rubber Tired Tractor (when material handling or pulling wagons on a construction project)						
	Flat Beds, Single Rear Axle						
	Foam Distributor Truck Single Axle						
	Fuel Handler (station/bulk attendant)						
	Gear/Supply Truck						
	Gravel Spreader Box Operator on Truck						
	Hydro Seeders, Single axle						
	Pickups (pilot cars & all light-duty vehicles)						
	Rigger/Swamper						
	Tack Truck						
	Team Drivers (horses, mules, & similar equipment)						
Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)							
	*See per diem note on last page						
						L&M	**LEG**
N2201	Group I, including:	36.30	8.95	21.16	1.40	0.20	0.20	68.21
	Brakeman						
	Mucker						
	Nipper						
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)						
	Topman & Bull Gang						
	Tunnel Track Laborer						
						L&M	**LEG**
N2202	Group II, including:	37.40	8.95	21.16	1.40	0.20	0.20	69.31
	Burning & Cutting Torch						
	Certified Erosion Sediment Control Lead (CESCL Laborer)						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	
Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude) *See per diem note on last page								
N2202	Group II, including: Concrete Laborer Floor Preparation, Core Drilling Jackhammer/Chipping Gun or Pavement Breaker Laser Instrument Operator Nozzlemen, Pumpcrete or Shotcrete Pipelayer Helper	37.40	8.95	21.16	1.40	0.20	0.20	69.31
N2203	Group III, including: Miner Retimberman	38.39	8.95	21.16	1.40	0.20	0.20	70.30
N2204	Group IIIA, including: Asphalt Raker, Asphalt Belly Dump Lay Down Drill Doctor (in the field) Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills) Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayer Powderman (Employee Possessor) Storm Water Pollution Protection Plan Specialist (SWPPP Specialist) Traffic Control Supervisor, DOT Qualified	42.00	8.95	21.16	1.40	0.20	0.20	73.91
N2206	Group IIIB, including: Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours) Federal Powderman (Responsible Person in Charge) Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones) Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours) Stake Hopper	46.17	6.24	21.16	1.40	0.20	0.20	75.37
Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude) *See per diem note on last page								
S2201	Group I, including: Brakeman Mucker Nipper Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)	36.30	8.95	21.16	1.40	0.20	0.20	68.21

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
	Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude) *See per diem note on last page							
						L&M	**LEG**	
S2201	Group I, including:	36.30	8.95	21.16	1.40	0.20	0.20	68.21
	Topman & Bull Gang Tunnel Track Laborer							
						L&M	**LEG**	
S2202	Group II, including:	37.40	8.95	21.16	1.40	0.20	0.20	69.31
	Burning & Cutting Torch Certified Erosion Sediment Control Lead (CESCL Laborer) Concrete Laborer Floor Preparation, Core Drilling Jackhammer/Chipping Gun or Pavement Breaker Laser Instrument Operator Nozzlemen, Pumpcrete or Shotcrete Pipelayer Helper							
						L&M	**LEG**	
S2203	Group III, including:	38.39	8.95	21.16	1.40	0.20	0.20	70.30
	Miner Retimberman							
						L&M	**LEG**	
S2204	Group IIIA, including:	42.00	8.95	21.16	1.40	0.20	0.20	73.91
	Asphalt Raker, Asphalt Belly Dump Lay Down Drill Doctor (in the field) Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills) Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayer Powderman (Employee Possessor) Storm Water Pollution Protection Plan Specialist (SWPPP Specialist) Traffic Control Supervisor, DOT Qualified							
						L&M	**LEG**	
S2206	Group IIIB, including:	46.17	6.24	21.16	1.40	0.20	0.20	75.37
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours) Federal Powderman (Responsible Person in Charge) Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones) Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours) Stake Hopper							
	Tunnel Workers, Power Equipment Operators *See per diem note on last page							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Tunnel Workers, Power Equipment Operators *See per diem note on last page								
A2207	Group I	47.88	11.05	13.75	1.00	**L&M** 0.10	0.05	73.83
A2208	Group IA	49.82	11.05	13.75	1.00	**L&M** 0.10	0.05	75.77
A2209	Group II	47.04	11.05	13.75	1.00	**L&M** 0.10	0.05	72.99
A2210	Group III	46.24	11.05	13.75	1.00	**L&M** 0.10	0.05	72.19
A2211	Group IV	39.41	11.05	13.75	1.00	**L&M** 0.10	0.05	65.36

*** Per diem is an established practice for this classification. This means that per diem is an allowable alternative to board and lodging if all criteria are met. See 8 AAC 30.051-08 AAC 30.056, and the per diem information on page vii of this Pamphlet.**

**** Work in combination of classifications: Employees working in any combination of classifications within the diving crew (working diver, standby diver, and tender) in a shift are paid in the classification with the highest rate for a minimum of 8 hours per shift.**

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

- This page intentionally left blank -

Shipyard Rates Addendum

This Addendum was developed to address the specialized industry of shipbuilding/repair in Alaska, as it relates to public works. For the purposes of providing rates for shipyard work the Department is adopting Shipyard rates from the state of Washington (King County). These rates only apply to work done in shipbuilding/repair in Alaska, under a public contract. This addendum will be updated two times a year to coincide with the corresponding Issue of *Laborers and Mechanics MINIMUM RATES OF PAY.*

Class Code		BHR H&W PEN TRN Other Benefits THR
Shipyard Workers *See total hourly(THR) note below		
A2300	Ship Building/Repair Boilermaker	47.45
A2305	Ship Building/Repair Carpenter	47.35
A2310	Ship Building/Repair Crane Operator	45.06
A2315	Ship Building/Repair Electrician	48.92
A2320	Ship Building/Repair Heat & Frost Insulator	82.02
A2325	Ship Building/Repair Laborer	47.35
A2330	Ship Building/Repair Mechanist	47.35
A2335	Ship Building/Repair Operating Engineer	45.06
A2340	Ship Building/Repair Painter	47.35
A2345	Ship Building/Repair Pipefitter	47.35
A2350	Ship Building/Repair Rigger	47.45
A2355	Ship Building/Repair Sheet Metal	47.35
A2360	Ship Building/Repair Shipwright	47.35
A2365	Ship Building/Repair Warehouse	45.06

***The THR includes the base hourly rate (BHR) and fringe benefits. Employers must pay a BHR and fringe benefit package that adds up to the THR. Fringe benefits included in the THR can be paid to employees in three ways; paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wage**s.

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

SECTION 00852 - PERMITS

PART 1 - GENERAL

1.1 INDEX OF PERMITS

1. Department of the Army, U.S Army Corps of Engineers, Southeast Section Regulatory Division, POA-1990-00661, Letter of Permission (LOP), June, 30 2020

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
REGULATORY DIVISION
P.O. BOX 22270
JUNEAU, AK 99801-2270

June 30, 2020

Regulatory Division
POA-1990-00661

City and Borough of Juneau
Attention: Ms. Keri Williamson
155 South Seward Street
Juneau, AK 99801

Dear Ms. Williamson:

Enclosed is the signed Letter of Permission (LOP), file number POA-1990-00661, Gastineau Channel, authorizing the construction of a new combined timber and concrete deck to fill in a small gap in the existing timber dock in downtown Juneau. The project would remove (13) timber and (8) steel piles and would install (17) new 16-inch diameter steel piles and 1,620 square feet of new timber decking and 840 square feet of new concrete decking. The project site is located within Section 23, Township 41 South, Range 67 East of the Copper River Meridian; USGS Quad Map Juneau B-2 SE; Latitude 58.298611 N, Longitude -134.406667 W; CBJ Tax Parcel ID 1C070K830010; in Juneau, Alaska. Also enclosed is a Notice of Authorization which should be posted in a prominent location near the authorized work.

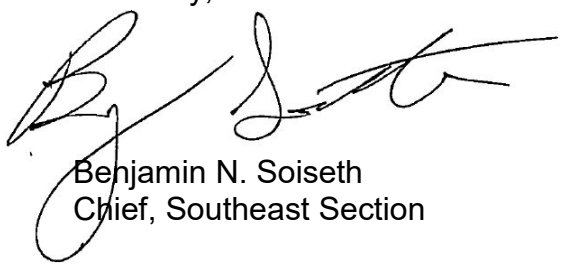
If changes to the plans or location of the work are necessary for any reason, plans must be submitted to us immediately. Federal law requires approval of any changes before construction begins.

Nothing in this letter excuses you from compliance with other Federal, State, or local statutes, ordinances, or regulations.

Additionally, we have enclosed a Notification of Administrative Appeals Options and Process and Request for Appeal form regarding this Department of the Army Letter of Permission (see section labeled “Initial Proffered Permit”).

Please contact me via email at: Delana.P.Wilks@usace.army.mil, by mail at the address above, or by phone at (907) 790-4494, if you have questions or to request a hard copy of the LOP and enclosures. For more information about the Regulatory Program, please visit our website at www.poa.usace.army.mil/Missions/Regulatory.

Sincerely,



Benjamin N. Soiseth
Chief, Southeast Section

Enclosures

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
REGULATORY DIVISION
P.O. BOX 22270
JUNEAU, AK 99801-2270

June 30, 2020

Regulatory Division
POA-1990-00661

DEPARTMENT OF THE ARMY
LETTER OF PERMISSION

Authorization is hereby granted to City and Borough of Juneau, to:

To construct a new combined timber and concrete deck to fill in a small gap in the existing timber dock in downtown Juneau. The project would remove (13) timber and (8) steel piles and would install (17) new 16-inch diameter steel piles and 1,620 square feet of new timber decking and 840 square feet of new concrete decking.

The work will be performed in accordance with the enclosed plans, sheets 1-4, dated May, 2020, which are incorporated in and made a part of this Letter of Permission.

This action is based upon the recommendation of the Chief of Engineers and under the provisions of Section 10 of the 1899 Rivers and Harbors Act (30 Stat 1151; 33 U.S.C. 403).

This authorization is subject to the following special conditions and the enclosed general conditions and further information (see enclosure entitled: GENERAL CONDITIONS/INFORMATION).

Special Conditions:

1. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States (U.S.).

2. You must install and maintain, at your expense, any safety lights and signals prescribed by the U.S. Coast Guard (USCG), through regulations or otherwise, on your authorized facilities. The USCG may be reached at the following address and telephone number: Commander (oan), 17th Coast Guard District, Post Office Box 25517, Juneau, Alaska 99802, (907) 463-2272.

3. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

Nothing in this authorization shall be construed as excusing you from compliance with other Federal, State, or local statutes, ordinances, or regulations which may affect the proposed work.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

June 30, 2020
DATE

Benjamin N. Soiseth
U.S. Army, Corps of Engineers

GENERAL CONDITIONS/INFORMATION

1. The time limit for completing the work authorized ends five years from the date of this authorization. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must contact the Alaska District Corps of Engineers (Corps) to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

2. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or un-permitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or un-permitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

3. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

4. Re-evaluation of Permit Decision. This office may re-evaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a re-evaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 3 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a re-evaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may, in certain situations, (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

5. Extensions. General Condition #1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a re-evaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers
Gastineau Channel

A permit to: Construct a new combined timber and concrete deck to fill in a small gap in the existing timber dock in downtown Juneau. The project would remove (13) timber and (8) steel piles and would install (17) new 16-inch diameter steel piles and 1,620 square feet of new timber decking and 840 square feet of new concrete decking.

at: Section 23, Township 41 South, Range 67 East of the Copper River Meridian; USGS Quad Map Juneau B-2 SE; Latitude 58.298611 N, Longitude -134.406667 W; CBJ Tax Parcel ID 1C070K830010; in Juneau, Alaska.

has been issued to: City and Borough of Juneau

on: June 30, 2020 **and expires on:** June 29, 2025

Address of Permittee: 155 South Seward Street, Juneau, AK 99801

Permit Number:

POA-1990-00661

FOR: ***District Commander***
Benjamin N. Soiseth
Chief, Southeast Section
REGULATORY DIVISION

ENG FORM 4336, Jul 81 (33 CFR 320-330) EDITION OF JUL 70 MAY BE USED (Proponent: CECW-O)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: City and Borough of Juneau	File Number: POA-1990-00661	Date: June 30, 2020
Attached is:		See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Delana Wilks, RS
Alaska District Corps of Engineers
Juneau Regulatory Field Office (CEPOA-RD-SE)
Post Office Box 22270
Juneau, Alaska 99802-2270
(907) 790-4494

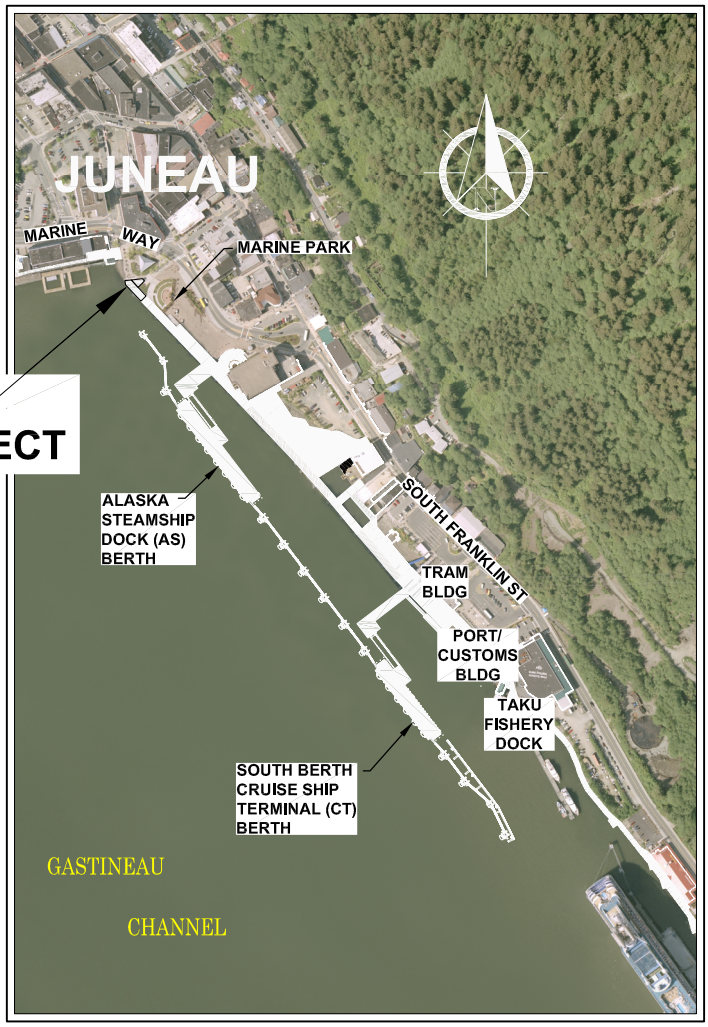
If you only have questions regarding the appeal process you may also contact:

Regulatory Program Manager
U.S. Army Corps of Engineers, Pacific Ocean Division
CEPOD-PDC, Bldg 525
Fort Shafter, HI 96858-5440

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

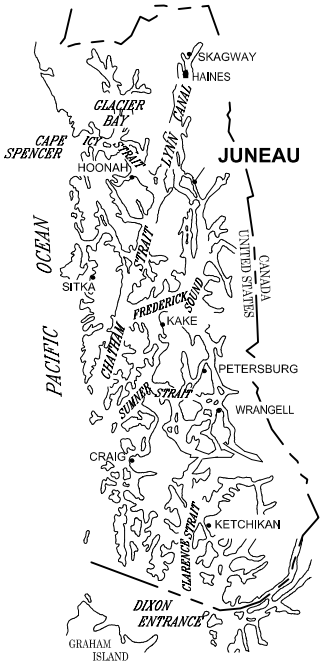
	Date:	Telephone number:
_____ Signature of appellant or agent.		

LOCATION



THIS PROJECT

AERIAL PHOTO MODIFIED FROM:
CITY AND BOROUGH OF JUNEAU, 2006



SOUTHEAST ALASKA

VICINITY MAP

SCALE IN MILES

0 ⅛ ¼

PURPOSE:

TO IMPROVE WATERFRONT ACCESS AND PEDESTRIAN CIRCULATION BY COVERING A SMALL GAP IN THE EXISTING TIMBER DOCK.

DATUM:
MLLW = 0.0' FT

HTL = 20.6'
MHW = 15.4'
MLLW = 0.0'

PND#: 192091

MARINE PARK LIGHTERING FLOAT DECKOVER

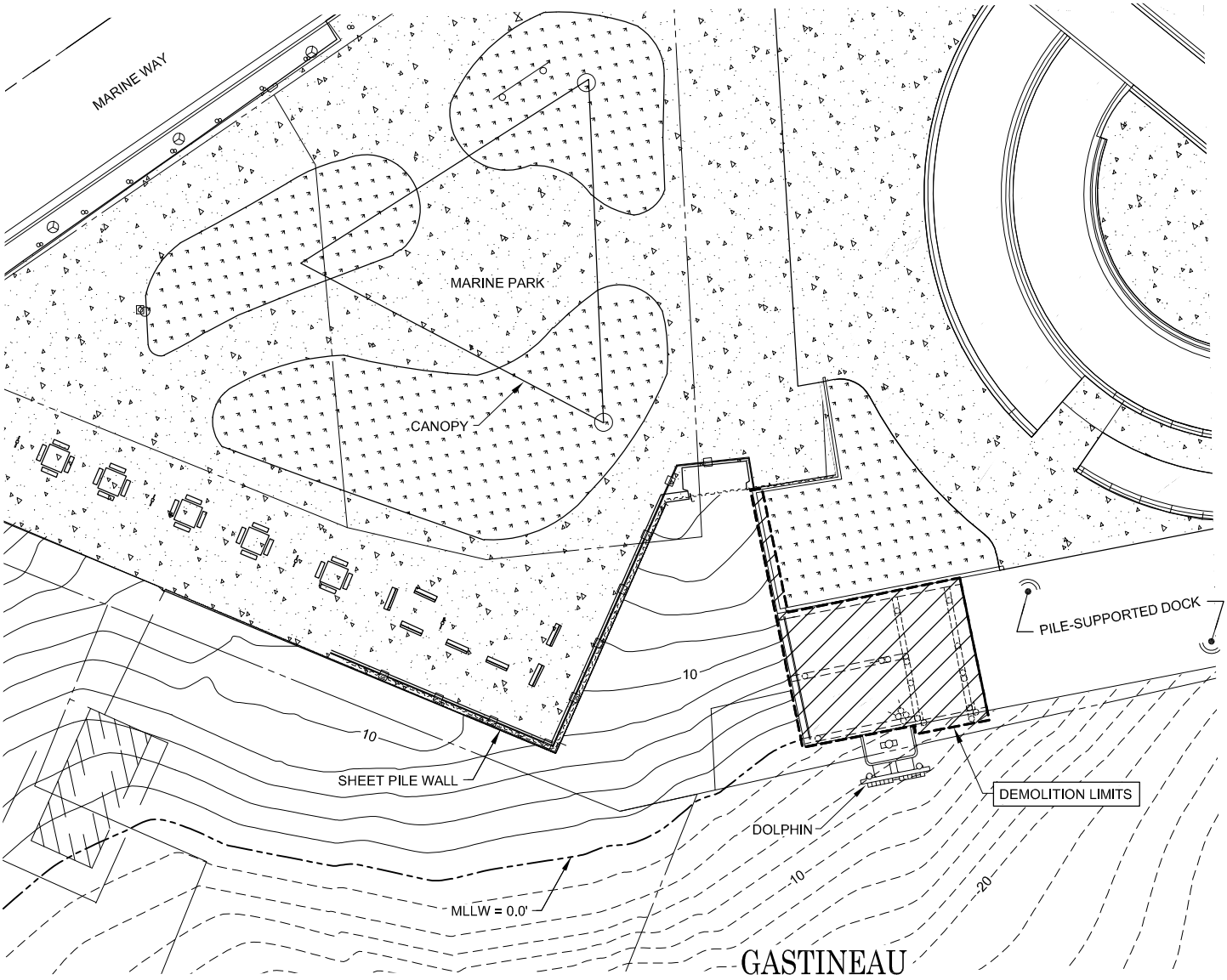
APPLICANT: CITY OF JUNEAU
155 S. SEWARD STREET

WATERWAY: GASTINEAU CHANNEL

PROPOSED ACTIVITY: WATERFRONT IMPROVEMENTS

S: 23 T: 41S R: 67E M: CRM
LAT: 58°17'56" N LONG: 134°24'23" W

DATE: MAY 2020



PILE REMOVAL

TYPE	# OF PILES	PILE Ø (INCH)
TIMBER	13	-
STEEL	8	(5)-16" (3)-12¾"

EXISTING CONDITIONS AND DEMOLITION

SCALE IN FEET

0 15 30

PURPOSE:

TO IMPROVE WATERFRONT ACCESS AND PEDESTRIAN CIRCULATION BY COVERING A SMALL GAP IN THE EXISTING TIMBER DOCK.

DATUM:
MLLW = 0.0' FT

HTL = 20.6'
MHW = 15.4'
MLLW = 0.0'

PND#: 192091

MARINE PARK LIGHTERING FLOAT DECKOVER

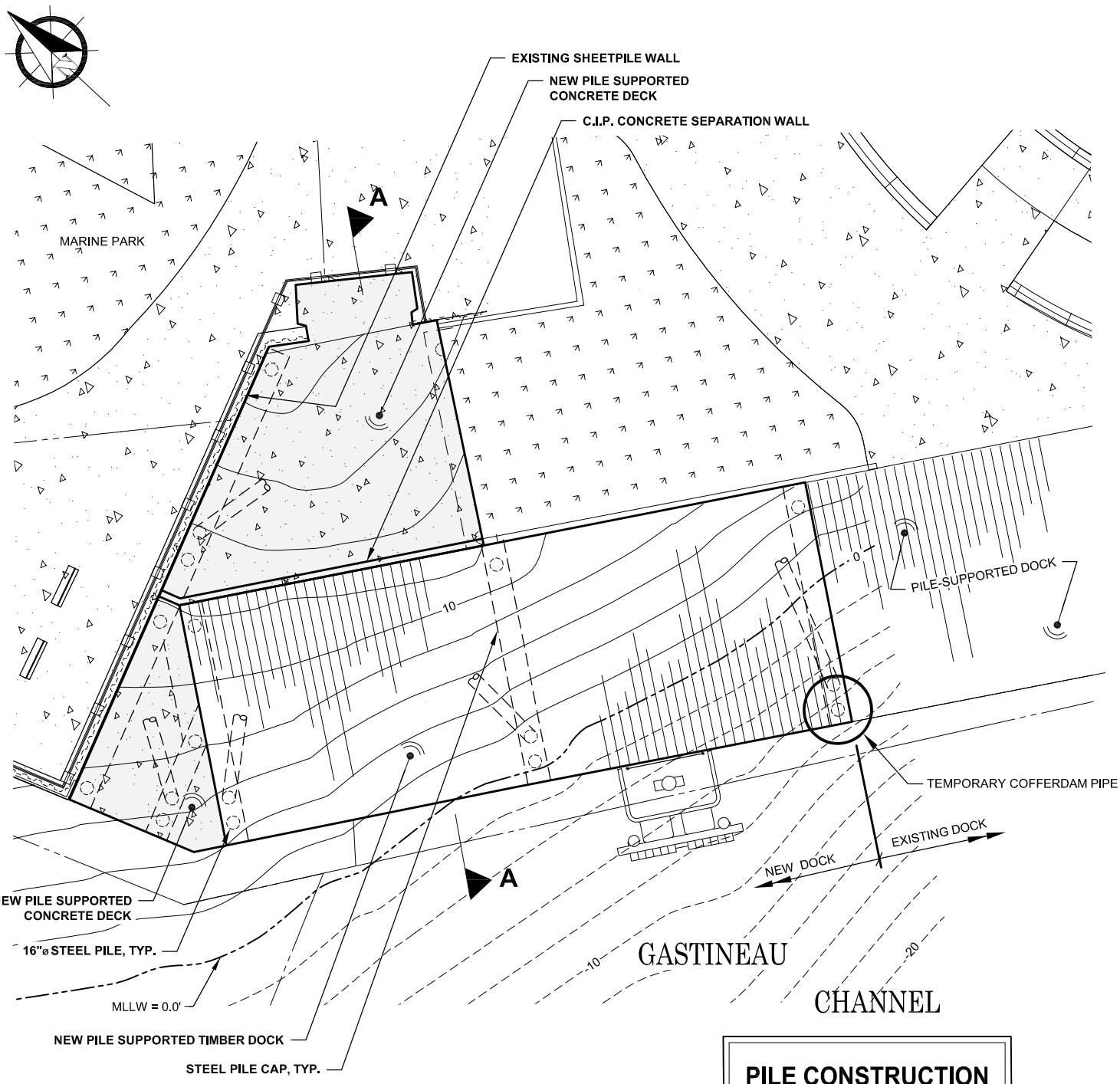
APPLICANT: CITY OF JUNEAU
155 S. SEWARD STREET

WATERWAY: GASTINEAU CHANNEL

PROPOSED ACTIVITY: WATERFRONT IMPROVEMENTS

S: 23 T: 41S R: 67E M: CRM
LAT: 58°17'56" N LONG: 134°24'23" W

DATE: MAY 2020



SITE PLAN

SCALE IN FEET

0 15

PILE CONSTRUCTION

ELEVATION AT MLLW	# OF PILES	PILE Ø (INCH)
ABOVE 0.00	16	16
BELOW 0.00	1	16

PURPOSE:

TO IMPROVE WATERFRONT ACCESS AND PEDESTRIAN CIRCULATION BY COVERING A SMALL GAP IN THE EXISTING TIMBER DOCK.

DATUM:
MLLW = 0.0' FT

HTL = 20.6'
MHW = 15.4'
MLLW = 0.0'

PND#: 192091

MARINE PARK LIGHTERING FLOAT DECKOVER

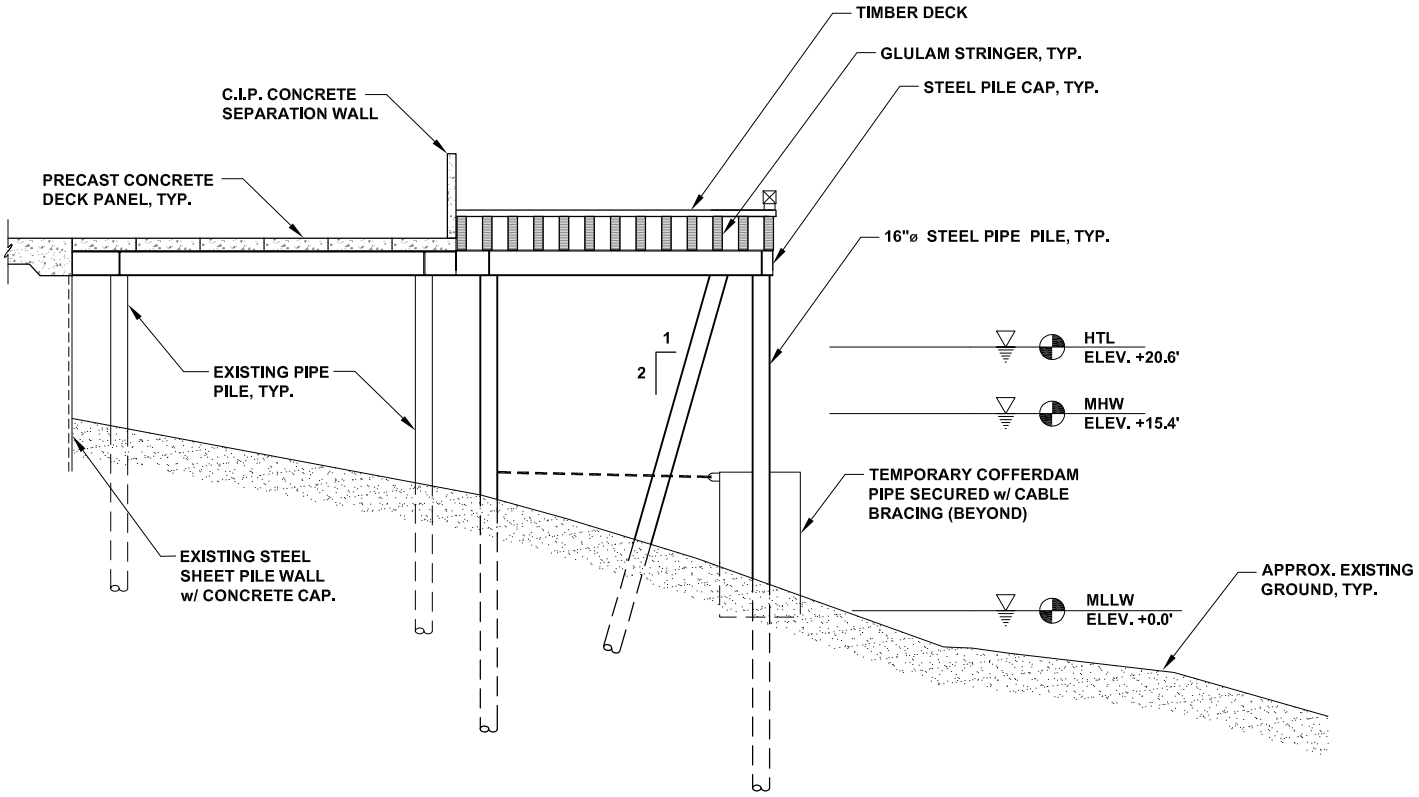
APPLICANT: CITY OF JUNEAU
155 S. SEWARD STREET

WATERWAY: GASTINEAU CHANNEL

PROPOSED ACTIVITY: WATERFRONT IMPROVEMENTS

S: 23 T: 41S R: 67E M: CRM
LAT: 58°17'56" N LONG: 134°24'23" W

DATE: MAY 2020



SECTION A-A

SCALE IN FEET

0 15 30

PURPOSE:

TO IMPROVE WATERFRONT ACCESS AND PEDESTRIAN CIRCULATION BY COVERING A SMALL GAP IN THE EXISTING TIMBER DOCK.

DATUM:
MLLW = 0.0' FT

HTL = 20.6'
MHW = 15.4'
MLLW = 0.0'

PND#: 192091

MARINE PARK LIGHTERING FLOAT DECKOVER

APPLICANT: CITY OF JUNEAU
155 S. SEWARD STREET

WATERWAY: GASTINEAU CHANNEL

PROPOSED ACTIVITY: WATERFRONT IMPROVEMENTS

S: 23 T: 41S R: 67E M: CRM
LAT: 58°17'56" N LONG: 134°24'23" W

DATE: MAY 2020

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. The WORK generally consists of various quantities of mobilization, demolition and disposal, salvage, surveying, placement and disposal of base course, landscaping, precast and cast-in-place grout, concrete deck, walls, light pole base, sidewalk, and miscellaneous in-fill areas, steel deck and rebar reinforcement, timber dock framing and decking, steel pile caps, steel pipe piles, bullrail and railing system, existing dock modifications, miscellaneous steel weldments, , electrical power and lighting systems, electrical motors/equipment, electrical support assemblies and other miscellaneous related improvements, appurtenances and related items.

1.3 SITE OF THE WORK

A. The site of the WORK is located in Juneau, adjacent to Marine Park.

1.4 BEGINNING AND COMPLETION OF THE WORK

A. Time is the essence of the contract. All WORK shall be completed in accordance with the following schedule:

WORK DESCRIPTION	COMPLETION DATE
Substantial Completion for all other Work	March 31, 2023
All WORK under the Contract Documents	April 14, 2023

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.

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. The CONTRACTOR shall coordinate with the CBJ for confirmation of final staging area limits.

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.

B. To the extent possible and as safety will allow, the project site shall remain active and available to the public. The CONTRACTOR shall conduct operations to minimize interference with use of the facilities at all times. The CONTRACTOR shall erect/install safety barriers and establish exclusion zones as necessary during pile driving operations and other overhead work or miscellaneous crane operations. The CONTRACTOR shall coordinate with the OWNER and the ENGINEER all required moorage restrictions and any other WORK that may affect public use a minimum of 48 hours in advance or longer as specified elsewhere in the Contract Documents.

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.

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 hours. The items listed in paragraph 3 will be covered as well as 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 monthly 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 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 areas disturbed during construction.
3. Trench excavation, bedding, and backfill as required for all piping, structures and vault installations.
4. Preservation and/or re-bedding of existing utilities encountered within the work limits.
5. Siltation and pollution control.
6. Maintenance of all services through the Project area, including water, storm, garbage pickup, mail delivery, other deliveries and emergency vehicles.
7. All traffic control, including flaggers, safety barriers, etc., and preparation of satisfactory Traffic Control Plans.
8. Minor grading of fill materials as required to match existing grades and maintain positive surface drainage.
9. Minor changes in grades to fit site conditions.
10. Temporary shoring of trenches or bracing of existing facilities as required for constructing any/all improvements.
11. Miscellaneous connecting and attachment hardware as required for installing new equipment.
12. Excavating, bedding, crushed aggregate drain rock, and backfilling for all electrical equipment including light pole base foundations, junction boxes, vaults, and conduit.
13. Subgrade bedding for all footings, walls, curb and other bedded structures.
14. Pile splices required to make up the pile lengths shown in the pile schedule.
15. Transport, shipping and delivery of all materials to the project site, undamaged and in new condition.

DIVISION 1

1.1 MOBILIZATION (Pay Item No. 1505.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Mobilization will 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 will 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.

1.2 TEMPORARY SECURITY FENCING (Pay Item No. 1520.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Temporary Security Fencing 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 Temporary Security Fencing shall be made at the amount shown in the Bid Schedule under Pay Item No. 1520.1, which payment will constitute full compensation for all WORK described in Section 01520 – Security, as shown on the Plans and as directed by the ENGINEER.

DIVISION 2

2.1 DEMOLITION AND DISPOSAL (Pay Item No. 2060.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Demolition and Disposal 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 Demolition and Disposal shall be made at the amount shown on the Bid Schedule under Pay Item No. 2060.1, which payment will constitute full compensation for all WORK described in Section 02060 – Demolition and Disposal, as shown on the Plans and as directed by the ENGINEER.

2.2 CONSTRUCTION SURVEYING (Pay Item No. 2702.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Construction Surveying 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 Construction Surveying shall be made at the amount shown on the Bid Schedule under Pay Item No. 2702.1, which payment shall constitute full compensation for all WORK described in Section 02702 - Construction Surveying, as shown on the Plans and as directed by the ENGINEER.

2.3 LANDSCAPING (PAY ITEM NO. 2718.1) PRICED BASED ON LUMP SUM

A. Measurement for payment for Landscaping shall be based on the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Landscaping shall be made at the amount shown on the Bid Schedule under Pay Item No. 2718.1, which payment shall constitute full compensation for all WORK described in Section 02718 – Landscaping, as shown on the Plans, and as directed by the ENGINEER.

2.4 24FT x 65FT SLOPED TIMBER DOCK (Pay Item No. 2726.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for 24ft x 65ft Sloped Timber Dock 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 and as shown on the Plans.

B. Payment for 24ft x 65ft Sloped Timber Dock shall be made at the amount shown on the Bid Schedule under Pay Item No. 2726.1, which payment shall constitute full compensation for all WORK described in Section 02726 – Timber Dock, as shown on the plans and as directed by the ENGINEER.

2.5 DOCK BULLRAIL AND RAILING (Pay Item No. 2726.2) PRICE BASED ON LUMP SUM

A. Measurement for payment for Dock Bullrail and Railing 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 and as shown on the Plans.

B. Payment for Dock Bullrail and Railing shall be made at the amount shown on the Bid Schedule under Pay Item No. 2726.2, which payment shall constitute full compensation for all WORK described in Section 02726 – Timber Dock, as shown on the plans and as directed by the ENGINEER.

2.6 EXISTING TIMBER DOCK MODIFICATIONS (Pay Item No. 2726.3) PRICE BASED ON LUMP SUM

A. Measurement for payment for Existing Timber Dock Modifications 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 and as shown on the Plans.

B. Payment for Existing Timber Dock Modifications shall be made at the amount shown on the Bid Schedule under Pay Item No. 2726.3, which payment shall constitute full compensation for all WORK described in Section 02726 – Timber Dock, as shown on the plans and as directed by the ENGINEER.

2.7 FURNISH 16-INCH DIA. x 0.500”t STEEL PIPE PILE (Pay Item No. 2896.1) PRICE BASED ON QUANTITY, LINEAR FOOT

A. Measurement for payment for Furnish 16-Inch Dia. x 0.500”t Steel Pipe Pile shall be per linear foot complete, including steel pile and reinforced pile tip. Piles shall be furnished by the CONTRACTOR in the lengths indicated on the Plans.

B. Payment for Furnish 16-Inch Dia. x 0.500”t Steel Pipe Pile shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2896.1, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the Plans and as directed by the ENGINEER.

2.8 INSTALL 16-INCH DIA. STEEL PIPE PILE (Pay Item No. 2896.2) PRICE BASED ON QUANTITY, EACH

A. Measurement for payment for Install 16-Inch Dia. Steel Pipe Pile shall be per each, complete in place, as shown on the Plans and installed in accordance with the Contract Documents and as shown on the Plans.

B. Payment for Install 16-Inch Dia. Steel Pipe Pile shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2896.2, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the Plans and as directed by the ENGINEER.

2.9 FURNISH AND INSTALL SPIN-FIN PILE TIPS (Pay Item No. 2896.3) PRICE BASED ON QUANTITY, EACH

A. Measurement for payment for Furnish and Install Spin-Fin Pile Tips shall be per each, complete in place, in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Furnish and Install Spin-Fin Pile Tips shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2896.3, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the Plans and as directed by the ENGINEER.

2.10 COFFERDAM PIPE INSTALLATION/REMOVAL (Pay Item No. 2896.4) PRICE BASED ON LUMP SUM

A. Measurement for payment for Cofferdam Pipe Installation/Removal 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 and as shown on the Plans.

B. Payment for Cofferdam Pipe Installation/Removal shall be made at the amount shown on the Bid Schedule under Pay Item No. 2896.4, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the plans and as directed by the ENGINEER.

2.11 CONTINGENT WORK – PILE OBSTRUCTION REMOVAL (Pay Item No. 2900.1) PRICE BASED ON CONTINGENT SUM.

A. Measurement for payment for Contingent Work – Pile Obstruction Removal shall be based on the COST OF WORK (TIME AND MATERIALS) as outlined under Section 00700 Article 11.3.

B. Payment for Contingent Work – Pile Obstruction Removal shall be made under Pay Item No. 2900.1, which payment will constitute full compensation for all WORK described in Section 02900 – Contingent Work, as shown on the Plans and as directed by the ENGINEER.

C. The Bid Schedule includes a contingent sum of $20,000 as the bid price required for all prospective bidders. There is no guarantee to the final amount that shall be utilized or implemented under this contract. The final payment amount shall be as equitably determined during construction.

DIVISION 3

3.1 CONCRETE SIDEWALK REPAIR (Pay Item No. 3303.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Concrete Sidewalk Repair shall be based on the completion of the entire Work as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Concrete Sidewalk Repair shall be made at the amount shown on the Bid Schedule under Pay Item No. 3303.1, which payment shall constitute full compensation for all WORK described in Section 03303 – Sidewalk, Curb and Gutter, as shown on the Plans and as directed by the ENGINEER.

3.2 PRECAST CONCRETE DECK PANELS (Pay Item No. 3420.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Precast Concrete Deck Panels shall be based on the completion of the entire Work as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Precast Concrete Deck Panels shall be made at the amount shown on the Bid Schedule under Pay Item No. 3420.1, which payment shall constitute full compensation for all WORK described in Section 03420 – Precast Concrete Deck Panels, as shown on the Plans and as directed by the ENGINEER

3.3 CAST-IN-PLACE CONCRETE DECK (Pay Item No. 3601.1) PRICE BASED ON LUMP SUM

C. Measurement for payment for Cast-In-Place Concrete Deck shall be based on the completion of the entire Work as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

D. Payment for Cast-In-Place Concrete Deck shall be made at the amount shown on the Bid Schedule under Pay Item No. 3601.1, which payment shall constitute full compensation for all WORK described in Section 03601 – Cast-In-Place Concrete and Grout, as shown on the Plans and as directed by the ENGINEER.

3.4 CONCRETE SEPARATION WALL AND WALL EXTENSION (Pay Item No. 3601.2) PRICE BASED ON LUMP SUM

A. Measurement for payment for Concrete Separation Wall and Wall Extension shall be based on the completion of the entire Work as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Concrete Separation Wall and Wall Extension shall be made at the amount shown on the Bid Schedule under Pay Item No. 3601.2, which payment shall constitute full compensation for all WORK described in Section 03601 – Cast-In-Place Concrete and Grout, as shown on the Plans and as directed by the ENGINEER.

3.5 CAST-IN-PLACE CONCRETE TRANSITIONS AND INFILL (Pay Item No. 3601.3) PRICE BASED ON LUMP SUM

C. Measurement for payment for Cast-In-Place Concrete Transitions and Infill shall be based on the completion of the entire Work as a Lump Sum Pay Unit complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

D. Payment for Cast-In-Place Concrete Transitions and Infill shall be made at the amount shown on the Bid Schedule under Pay Item No. 3601.3, which payment shall constitute full compensation for all WORK described in Section 03601 – Cast-In-Place Concrete and Grout, as shown on the Plans and as directed by the ENGINEER

DIVISION 5

5.1 CONCRETE DECK SUBSTRUCTURE PILE CAPS (Pay Item No. 5120.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Concrete Deck Substructure Pile Caps shall be based on the completion of the entire Work as a Lump Sum Pay Unit complete, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Concrete Deck Substructure Pile Caps shall be made at the amount shown on the Bid Schedule under Pay Item No. 5120.1, which payment shall constitute full compensation for all WORK described in Section 05120 – Metal Fabrication as shown on the Plans and as directed by the ENGINEER.

5.2 DOLPHIN CAPSTAN W/ BASE AND CONTROL POST (Pay Item No. 5120.2) PRICE BASED ON LUMP SUM

A. Measurement for payment for Dolphin Capstan w/ Base and Control Post shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, including complete capstan brand and model w/ controls identified in the specifications, all fabricated steel, attachments, connection hardware and other miscellaneous appurtenances as required for a complete and functioning system, complete in place, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Dolphin Capstan w/ Base and Control Post shall be made at the amount shown on the Bid Schedule under Pay Item No. 5120.2, which payment shall constitute full compensation for all WORK described in Section 05120 – Metal Fabrication, as shown on the Plans and as directed by the ENGINEER.

5.3 DOLPHIN ACCESS GATE (Pay Item No. 5120.3) PRICE BASED ON LUMP SUM

A. Measurement for payment for Dolphin Access Gate 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 and as shown on the Plans.

B. Payment for Dolphin Access Gate shall be made at the amount shown on the Bid Schedule under Pay Item No. 5120.3, which payment shall constitute full compensation for all WORK described in Section 05120 – Metal Fabrication, as shown on the Plans and as directed by the ENGINEER.

DIVISION 16

16.1 ELECTRICAL DEMOLITION (Pay Item No. 16000.1) PRICE BASED ON LUMP SUM

A. Measurement for payment for Electrical Demolition shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete in place, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Electrical Demolition shall be made at the amount shown on the Bid Schedule under Pay Item No. 16000.1, which payment shall constitute full compensation for all WORK described in Division 16 – Electrical, as shown on the Plans and as directed by the ENGINEER.

16.2 ELECTRICAL POWER AND LIGHTING (Pay Item No. 16000.2) PRICE BASED ON LUMP SUM

A. Measurement for payment for Electrical Power and Lighting shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete in place, all in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. Payment for Electrical Power and Lighting shall be made at the amount shown on the Bid Schedule under Pay Item No. 16000.2, which payment shall constitute full compensation for all WORK described in Division 16 – Electrical, as shown on the Plans and as directed by 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 bullrails
6. Bearing and retaining walls
7. Structural decking
8. Pressurized piping, vessels and equipment
9. Concrete or timber floats

1.3 OPERATIONAL AND SAFETY LIMITATIONS

A. The CONTRACTOR shall not cut and patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.

B. Prior to cutting and patching the following categories of WORK, the CONTRACTOR shall obtain the ENGINEER's approval to proceed with:

1. Sheeting, shoring and cross bracing
2. Operating systems and equipment
3. Water, moisture, vapor, air, smoke barriers, membranes and flashing
4. Noise and vibration control elements and systems
5. Control, communication, conveying and electrical wiring systems

1.4 VISUAL REQUIREMENTS

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

B. The CONTRACTOR shall provide adequate protection of other WORK during cutting and patching.

3.2 INSTALLATION

A. The CONTRACTOR shall employ skilled tradespeople to perform cutting and patching. Except as otherwise indicated, the CONTRACTOR shall proceed with cutting and patching at the earliest feasible time and perform the WORK promptly.

B. The CONTRACTOR shall use methods least likely to damage WORK to be retained and WORK adjoining.

1. In general, where physical cutting action is required, the CONTRACTOR shall cut WORK with sawing and grinding tools, not with hammering and chopping tools. Openings through concrete work shall be core-drilled and all final edges shall be ground smooth to prevent wear.
2. Comply with the requirements of Technical Specifications wherever applicable.

3. Comply with the requirements of applicable sections of Division 2 where cutting and patching requires excavation and backfill.

C. The CONTRACTOR shall patch with seams which are as invisible as possible and comply with specified tolerances for the WORK.

D. The CONTRACTOR shall restore exposed seams of patched area; and, where necessary, extend finish restoration onto retained WORK adjoining, in a manner which will eliminate evidence of patching.

END OF SECTION

SECTION 01070 - ACRONYMS OF INSTITUTIONS

PART 1 - GENERAL

1.1 GENERAL

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

1.2 ACRONYMS

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

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

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01090 - REFERENCE STANDARDS

PART 1 - GENERAL

1.1 GENERAL

A. Titles of Sections and Paragraphs: Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.

B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the WORK is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

C. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the CONTRACTOR.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Without limiting the generality of other requirements of the Specifications, all WORK specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.

B. References herein to "Building Code" or "Uniform Building Code" shall mean Uniform Building Code of the International Conference of Building Officials (ICBO).

C. Similarly, references to "Mechanical Code" or "Uniform Mechanical Code," "Plumbing Code" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code and used by the local agency as of the date that the WORK is advertised for bids, as adopted by the agency having jurisdiction, shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful changes thereto.

D. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought

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 01300 - 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 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 transmit electronic documents to the ENGINEER for purposes of submittal review. 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, product data sheets, and any other related items.

B. All Shop Drawing Submittals shall be accompanied by the ENGINEER's standard submittal transmittal form. The form may be obtained from the ENGINEER. Any submittal not accompanied by this form, or where all applicable items on the form are not completed, will be returned for resubmittal.

C. Typically, 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.

D. Except as otherwise provided herein, the ENGINEER will return each submittal to the CONTRACTOR with its comments noted thereon, within 30 calendar days following their receipt by the ENGINEER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the second

submission of a submittal item. The OWNER reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER review beyond the second submittal. The ENGINEER's maximum review period for each submittal including all re-submittals will be 30 days per submission. In other words, for a submittal that requires two re-submittals before it is complete, the maximum review period for that submittal could be 90 days.

E. If a submittal is returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision and resubmission of said submittal will not be required.

F. If a submittal is returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal revision and resubmission of said submittal is not required.

G. If a submittal is returned to the CONTRACTOR marked "AMEND-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit to the ENGINEER.

H. If a submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit to the ENGINEER.

I. Fabrication of an item may be commenced only after the ENGINEER has reviewed the pertinent submittal and responded to the CONTRACTOR with 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.

1.3 SAMPLES SUBMITTAL

A. Whenever in the Specifications samples are required, the CONTRACTOR shall submit not less than 2 samples of each item or material to the ENGINEER for acceptance at no additional cost to the OWNER.

B. Samples, as required herein, shall be submitted for acceptance a minimum of 21 days prior to ordering such material for delivery to the job site, and shall be submitted in an

orderly sequence so that dependent materials or equipment can be assembled and reviewed without causing delays in the WORK.

C. All samples shall be individually and indelibly labeled or tagged, indicating thereon all specified physical characteristics and Supplier's names for identification and submitted to the ENGINEER for acceptance.

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 all applicable technical manuals. A table of contents shall be provided which indicates all equipment in the technical manuals.

C. All technical manuals shall be submitted to the ENGINEER not later than the 75 percent of construction completion date. All discrepancies found by the ENGINEER in the technical manuals shall be corrected by the CONTRACTOR within 30 days from the date of written notification by the ENGINEER.

D. Incomplete or unacceptable technical manuals at the 75 percent construction completion point shall constitute sufficient justification to withhold payment for work completed beyond that period in accordance with Paragraph "Technical Manual Submittal" of Section 01700, "Project Closeout."

1.5 SPARE PARTS LIST SUBMITTAL

A. The CONTRACTOR shall furnish to the ENGINEER spare parts information for all mechanical, electrical, and instrumentation equipment. The spare parts list shall include the current list price of each spare part. The spare parts list shall be limited to those spare parts which each manufacturer recommends be maintained by the OWNER in inventory at the plant site. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to facilitate the OWNER in ordering. The CONTRACTOR shall cross-reference all spare parts lists to the equipment numbers designated in the Contract Documents.

1.6 RECORD DRAWINGS SUBMITTALS

A. The CONTRACTOR shall keep and maintain, at the job site, one record set of Drawings. On these, the CONTRACTOR shall mark all Project conditions, locations, configurations, and any other changes or deviations which may vary from the details represented on the original contract Drawings, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to indicate, fully, the WORK as actually constructed. These master record drawings, of the CONTRACTOR's representation of as-built conditions, including all revisions made necessary by addenda, change orders, and the like shall be maintained up-to-date during the progress of the WORK.

B. In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record drawings shall be updated by indicating those portions which are superseded by Change Order Drawings or final Shop Drawings, and by including appropriate reference information describing the Change Orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers.

C. Record Drawings shall be accessible to the ENGINEER at all times during the construction period and shall be delivered to the ENGINEER on the 20th working day of every third month after the month in which the Notice to Proceed is given as well as upon completion of the WORK.

D. Final payment will not be acted upon until the CONTRACTOR-prepared record drawings have been delivered to the ENGINEER.

1.7 PROGRESS SCHEDULES

A. The progress schedule shall be in Bar Chart or Critical Path Method (CPM) form, as required by the ENGINEER.

B. The progress schedule shall show the order in which the CONTRACTOR proposes to carry out the WORK and the contemplated date on which the CONTRACTOR and their subcontractors will start and finish each of the salient features of the work, including any scheduled periods of shutdown. The schedule shall also indicate any anticipated periods of multiple-shift work.

C. Upon substantial changes to the CONTRACTOR's progress schedule of work or upon request of the ENGINEER, the CONTRACTOR shall submit a revised progress schedule(s) in the form required. Such revised schedule(s) shall conform with 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 contractor affected by the resulting change.

B. The procedure for review by the ENGINEER will include the following:

1. If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the ENGINEER on the "Substitution Request Form" for acceptance thereof.
2. Unless otherwise provided by law or authorized in writing by the ENGINEER, the "Substitution Request Form(s)" shall be submitted within the 21-day period after Notice of Award.
3. Wherever a proposed substitute material or equipment has not been submitted within said 21-day period, or wherever the submission of a proposed substitute material or equipment has been judged to be unacceptable by the ENGINEER, the CONTRACTOR shall provide material or equipment named in the Contract Documents.
4. The CONTRACTOR shall certify that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified, and be suited to the same use as that specified.
5. The ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. In no case will this reasonable time period be less than 30 days.
6. As applicable, no shop drawing submittals will be made for a substitute item nor will any substitute item be ordered, installed, or utilized without the ENGINEER's prior written acceptance of the CONTRACTOR's "Substitution Request Form" which will be evidenced by a Change Order.
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 CERTIFICATON SUBMITTAL

A. The ENGINEER may permit the use, prior to sampling, inspection and testing, of certain materials or assemblies when accompanied by manufacturer's material certifications

stating that such materials or assemblies fully comply with the requirements of the Contract. The certification shall be signed by the manufacturer, and will specifically reference the material's compliance with the AASHTO, ASTM and/or CBJ Standards specified in the applicable Contract Documents.

B. Material Certifications shall be submitted to the ENGINEER prior to incorporating the item into the WORK.

C. Materials or assemblies used on the basis of material certifications may be sampled, inspected and/or tested at any time, and if found not in conformity with these Specifications, will be subject to rejection whether in place or not.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

(SUBSTITUTION REQUEST FORM – next page)

City and Borough of Juneau

SUBSTITUTION REQUEST FORM

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

SPECIFIED ITEM:

Section	Page	Paragraph	Description
_____	_____	_____	_____

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 affect 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: _____
Signature _____
Firm: _____
By: _____
Title: _____
Date: _____
Attachments: _____

Reviewed by ARCHITECT/ENGINEER_____
☐ Accepted ☐ Accepted as Noted
☐ Not Accepted ☐ Received Too Late
Date: _____
Telephone: _____

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.
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 obtaining permits; moving onto the site of all plant and equipment; furnishing and erecting plants, 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 plant and equipment required for operations.
2. Providing all on-site communication facilities, including radios and cellular phones.
3. Obtaining all required permits other than those provided in the Contract Documents.
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.

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. Utilize chain link fencing and gates as required to control entry and prevent public access onto the site during demolition activities.
2. Chain link fencing may also be required to control entry along the existing timber seawalk when WORK directly on the seawalk is not underway. It is intended that the existing seawalk remain open to the public whenever deemed safe by the CONTRACTOR to do so. The CONTRACTOR may erect chain link fencing to narrow the seawalk to a minimum of 8' wide when deemed necessary or to fully close off the seawalk when construction operations make it unsafe for the public to transit through the area.
3. Secure and maintain fence at all times during the construction period. Add sufficient weight to base sections as required to resist all wind and snow loads.
4. Allow entry on the construction site only to authorized persons with proper identification.
5. Coordinate access of OWNER's personnel to the 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 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 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-establishment of all survey monuments shall be by a Registered Alaskan Land Surveyor.

1.4 RESTORATION OF PAVEMENT

A. General: All paved areas, including asphalt concrete berms, cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement owner. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.

B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.

C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

D. Restoration of Sidewalks or Private Driveways: Wherever sidewalks or private roads have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of 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 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 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 access shall be provided to the harbor moorage float system, 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 a suitable temporary bridge or other such facility to accommodate public access to the harbor at all times. All such temporary bridges shall be maintained in service until permanent gangway access is provided. The CONTRACTOR shall provide designs for such bridges and shall submit plans for conceptual approval.

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. 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.

C. 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.

D. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated. Toe boards shall be provided to retain excavated material if required by the ENGINEER or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the

WORK shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.

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. When the CONTRACTOR is required to maintain traffic through grading, roadway excavation and embankment areas, the construction shall be conducted in such a manner as to provide a reasonably smooth and even surface satisfactory for use by public traffic at all times. The surface of the roadbed shall be properly crowned for drainage. In advance of other grading operations, sufficient fill shall be placed at culverts and bridges to permit traffic to cross unimpeded. Part width construction techniques shall be employed when the traffic is routed through roadway cuts or over embankments under construction. The material shall be excavated or placed in layers and the construction activities shall be alternated from one side to the other, with traffic routed over the side opposite the one under construction.

G. During the removal and laying of culvert pipe, a maximum time of one hour of road closure may be permitted, providing the removal and laying of the culvert pipe cannot be completed for one-half width of the roadway and provided that a detour cannot be constructed around the culvert being laid. Closure shall be scheduled so as not to delay buses and peak hour traffic. The CONTRACTOR shall post, at the site of the closure within view of the waiting public traffic, the time the closure started and the time the road will again be open to traffic. The CONTRACTOR shall notify the Fire and Police Departments of such closures prior to commencement of work.

H. 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 at City Hall 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.

I. When, in the opinion of the ENGINEER, conditions are such that the safety and/or convenience of the traveling public is adversely affected, the CONTRACTOR will be immediately notified in writing. The notice will state the defect(s) and the corrective action(s) required. In the event that the CONTRACTOR neglects to take immediate corrective action, the ENGINEER may suspend all work on the project until satisfactory corrective action is performed. In the event the CONTRACTOR does not take corrective action within 24 hours, the ENGINEER may order such work as deemed necessary for public convince and safety accomplished by outside forces. The cost of this work shall be deducted from any monies due or that may become due under the terms or the contract.

J. The CONTRACTOR shall bear all expense of maintaining the traffic over the section of road undergoing improvement, including dust control and snow plowing, and of constructing and maintaining such approaches, crossings, intersections, and other features as may be necessary, without direct compensation, except as provided below:

1. Special Detours. When the proposal contains a bid item for detours, the payment for such item shall cover all cost of constructing and maintaining such detour or

detours, including the construction of any and all temporary bridges and accessory features and the removal of the same, and obliteration of the detour road. Right-of-way for temporary highways or bridges will be furnished by the OWNER.

2. Maintenance of Traffic During Suspension of WORK. The CONTRACTOR shall make passable and shall open to traffic such portions of the Project and temporary roadways as may be agreed upon between the CONTRACTOR and the ENGINEER for the temporary accommodation of necessary traffic during the anticipated period of suspension. If the suspension is seasonal (winter shutdown), thereafter, and until an issuance of an order for the resumption of construction operations, the maintenance of the temporary route of line of travel agreed upon will be the responsibility of the OWNER. Prior to the OWNER accepting the Project for winter shutdown, the CONTRACTOR shall do all work necessary to provide a roadway surface and subgrade that will not require the OWER to perform additional maintenance work during the shutdown period, except for purpose of snow removal. If the WORK is suspended due to unfavorable weather, failure of the CONTRACTOR to correct conditions unsafe for the workers or the general public, failure to carry out provisions of the contract, or for failure to carry out orders of the ENGINEER, all costs for maintenance of traffic during the suspended period shall be borne by the CONTRACTOR. When WORK is resumed, the CONTRACTOR shall replace or renew any WORK or materials lost or damaged because of temporary use of the project; shall remove, to the extent directed by the ENGINEER, any WORK or materials used in the temporary maintenance; and shall complete the Project as though its prosecution had been continuous and without interference.

K. 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.

L. 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.

M. 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.

N. 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.

O. Temporary Street Closure: If closure of any street is required during construction, the

CONTRACTOR shall apply in writing to the City Administrator 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.

P. 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.

Q. 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.

R. 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 City and Borough of Juneau Fire, Police and Public Works 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.
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.

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.

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01570 - EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide for erosion and sediment control during construction in accordance with the requirements of the Alaska Department of Environmental Conservation (ADEC). All discharge of pollutants and sedimentation from onsite drainage shall be caught on-site. CONTRACTOR shall also provide a floating silt curtain to contain potential sediment from excavation and placement of material for the MSE wall.

B. Erosion and Sediment Control includes preparation and maintenance of a Storm Water Pollution Prevention Plan (SWPPP), control of erosion, sedimentation and discharge of pollutants, in accordance with the ADEC Construction General Permit (CGP).

C. 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.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 GENERAL

A. The CONTRACTOR is responsible to prepare, submit and maintain a SWPPP, as required by the CGP that is in accordance with their construction methodologies and sequences.

1. For projects disturbing greater than 1 Acre, this requirement shall include submission of a Notice of Intent (NOI) to ADEC prior to beginning of WORK. Copies of the NOI and SWPPP shall also be submitted to the ENGINEER within 5 days of submittal to ADEC.

2. For projects disturbing less than 1 acre, the SWPPP shall be submitted to the ENGINEER prior to the beginning of WORK; submittal to ADEC or an NOI are not required.

B. WORK at the Project site will not be permitted until the above documents are submitted to the ENGINEER and acceptance of this plan has been obtained from the governing agency or agencies (if required by the CGP).

C. The CONTRACTOR shall install temporary erosion control structures and devices as required by their SWPPP, prepared in accordance with the ADEC CGP. They shall be maintained in effective operating condition at all times. Prior to completion of work, the CONTRACTOR shall clean and remove all silt and debris from the settling pond and check dams.

D. Temporary erosion control structures shall remain in place until the project is completed and replaced by permanent erosion control WORK, protected by final stabilization or until the ENGINEER approves their removal.

E. The CONTRACTOR shall be responsible for meeting the requirements of all permits (including permits naming the OWNER, or other parties); therefore, shall be responsible for the quality of the run-off water from the Project site and for any fines and/or penalties resulting from the construction operation.

F. The CONTRACTOR shall submit NOT (Notice of Termination) at completion of the WORK and removal of all SWPPP items.

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. 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

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 foregoing requirements for final clean-up of the project site.

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. Submit the original signed document to Erich Schaal, P.E., Port Engineer.

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 make all repairs and replacements promptly upon receipt of written order from the OWNER. If the CONTRACTOR fails to make such repairs or replacements promptly, the OWNER reserves the right to do the WORK and the CONTRACTOR and his surety shall be liable to the OWNER for the cost thereof.

1.5 BOND. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Paragraph "Maintenance and Guarantee" above, and Article 13 of the General Conditions.

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION (Not Used)

SECTION 01700 - PROJECT CLOSE-OUT

CERTIFICATE OF COMPLIANCE AND RELEASE

PROJECT: _____
CONTRACT NO: _____

The CONTRACTOR must complete and submit this to the OWNER 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 OWNER was advised and approved of all Subcontractors before WORK was performed and has approved any substitutions of Subcontractors.

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.

_____ Capacity: CONTRACTOR
Firm Name

_____ _____ _____
Signed Printed Name and Title Date

Return completed form to: Erich Schaal, P.E., Port Engineer, City and Borough of Juneau, 155 S. Seward Street, Juneau, AK 99801.

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.

END OF SECTION

SECTION 02060 – DEMOLITION AND DISPOSAL

PART 1 - GENERAL

1.1 DESCRIPTION. WORK under this Section shall include all labor, materials, tools and equipment necessary for the demolition, salvage and proper offsite disposal or storage of all items as designated herein and as shown on the Plans or as otherwise required to complete the WORK. The CONTRACTOR shall provide an appropriate disposal site for all items designated to be disposed. Demolition and disposal methods shall meet all local, state and federal regulations.

PART 2 - PRODUCTS (Not Used).

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Examine conditions on site with ENGINEER and OWNER prior to commencement of WORK.

B. Conduct demolition to minimize interference with adjacent structures and interruption to public services.

C. Cease operations immediately if adjacent structures appear to be in danger and notify ENGINEER. Do not resume operations until directed by ENGINEER.

3.2 DEMOLITION AND DISPOSAL

A. Demolition and disposal shall be performed in accordance with all applicable CBJ codes and standards and shall be completed as shown on the Plans.

B. Conduct demolition activities in an organized manner ensuring demolished materials are promptly removed from the site.

C. The CONTRACTOR is responsible to secure waste disposal sites, including obtaining written permission of the land owner and any required permits, if none are indicated on the plans. The cost of securing such sites shall be borne by the CONTRACTOR. If requested by the ENGINEER, the CONTRACTOR shall furnish copies of all required permits for the disposal sites.

D. All items designated for salvage shall be delivered to the OWNER at a nearby uplands location.

E. Demolish and dispose all other incidental and miscellaneous items as required to complete the project.

F. Place construction signs and barricades as required to prevent public entry into WORK area.

G. Repair any damage to existing facilities designated to remain.

H. Excavation required to complete demolition work shall be considered incidental.

END OF SECTION

SECTION 02201- CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for clearing, grubbing, removing and disposing of all vegetation, beach logs, pile remnants and shoreline debris (including earthen materials incidentally removed with vegetation and debris), and removing structures and obstructions located within the limits shown on the plans or designated by the ENGINEER, except such objects as are designated to remain in place or are to be removed in accordance with other sections of these Specifications. The work shall also include the preservation from injury or defacement of all vegetation and objects designated to remain.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL

A. The ENGINEER will establish the limits of the work and will designate all trees, plants, shrubs and other items to remain. The CONTRACTOR shall protect and preserve all items designated to remain.

B. The CONTRACTOR is responsible to secure waste disposal sites, including obtaining written permission of the OWNER and any required permits, if none are indicated on the plans. The cost of securing such sites shall be borne by the CONTRACTOR. If requested by the ENGINEER, the CONTRACTOR shall furnish the permit numbers of all required permits for disposal sites.

C. No trees, shrubs or other plantings shall be disturbed or otherwise damaged, unless shown on the Plans or directed by the ENGINEER. Trees, shrubs and other plantings which are to be salvaged shall be done so in coordination with the OWNER or as directed by the ENGINEER as shown on the Plans.

D. The Plan drawings do not necessarily show, or otherwise indicate all trees, shrubs, beach logs, pile remnants, shoreline debris or other vegetation. The CONTRACTOR shall clear and grub all trees, shrubs, beach logs, pile remnants, debris and other vegetation to the limits required to construct the project, except where otherwise indicated in the Contract Documents.

END OF SECTION

SECTION 02202-EXCAVATION AND EMBANKMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for excavation and embankment construction to the lines, grades and cross sections indicated in the Plans or as directed by the ENGINEER.

PART 2 - PRODUCTS

2.1 UNUSABLE EXCAVATION. All in situ excavation deemed unsuitable for use within a designated fill prism by the ENGINEER shall be Unusable Excavation, and shall consist of excavation and disposal of all materials, of whatever character, encountered in the WORK.

A. Disposal of unusable excavation to an off-site location provided by the CONTRACTOR shall be incidental to Unusable Excavation.

B. Work required to secure disposal sites, remove and dispose of all unusable excavation as directed by the ENGINEER shall be incidental to Unusable Excavation.

2.2 USABLE EXCAVATION. Usable Excavation shall be all excavated material designated for salvage and reuse by the ENGINEER.

A. Usable Excavation shall consist of suitable excavated existing shot rock fill to the neat line limits shown on the Plans and suitable excavated material placed in stockpile on site for future use.

B. WORK required to place, compact and grade this material to the final lines, grades and limits as shown on the Plans shall be incidental to Usable Excavation.

2.3 SHOT ROCK BORROW. Shot Rock Borrow shall consist of hard angular and blasted quarry rock having a percentage of wear of not more than 50 at 1000 revolutions, as determined by ASTM C535.

A. Shot Rock Borrow shall meet the following gradation as determined by WAQTC FOP for AASHTO T 27/T 11.

SIEVE SIZE	% PASSING BY WEIGHT
4-Inch	100
2-Inch	60 – 90
No. 4	12 – 40
No. 200*	0 – 3
*Gradation shall be determined on that portion passing the 3-inch screen.	

B. Shot Rock Borrow shall consist of stone material having its greatest dimension no longer than twice its smallest dimension.

C. Shot Rock Borrow shall contain no mulch, frozen material, roots, sod or other deleterious matter.

PART 3 - EXECUTION

3.1 MINING AREA AND ROAD CLEANING GUARANTEE

A. The CONTRACTOR shall be responsible for removal of dirt, mud, rocks and other debris from CBJ and State Right-of-Ways accumulated from the hauling and quarry operations. It is the intent that the traveled public way be kept as clean as practical to minimize dust and to avoid unsafe traffic conditions.

B. The Contractor shall be responsible for restoration of their mining area in accordance to the conditions of the material source used and mining plan submitted.

3.2 EXCAVATION

A. Excavations shall be reasonably smooth and uniform to the lines, grades and cross-sections shown in the Plans or as directed by the ENGINEER. Excavations shall be conducted to ensure that material outside of excavation limits remains undisturbed.

B. Excavations shall be protected from erosion and maintained to drain freely at all times.

C. Where excavation to the limits indicated on the Plans encounters unsuitable underlying material as determined by the ENGINEER, the CONTRACTOR shall remove the unsuitable material and backfill with approved material. The CONTRACTOR shall allow time to take the necessary cross section measurements before backfill is placed.

D. Excavated soils that do not meet the requirements for Usable Excavation shall be disposed of by the CONTRACTOR at a location provided by the CONTRACTOR. No material may be wasted without the prior approval of the ENGINEER

E. The CONTRACTOR is responsible for securing Unusable Excavation disposal sites if none are indicated on the Plans. The CONTRACTOR shall obtain the written permission of the Landowner for use of all disposal sites, and shall either obtain any required permits or assure that others have obtained them. If requested by the ENGINEER, the CONTRACTOR shall furnish the permit numbers of all required permits for the disposal sites. The cost of securing such sites shall be borne by the CONTRACTOR.

F. Temporary storage of Usable Excavation is the responsibility of the CONTRACTOR, and no additional payment will be made.

1. Usable Excavation shall be stored on-site at a location approved by the ENGINEER. Usable Excavation shall be protected from erosion and sediment run-off in a manner consistent with the requirement of the CONTRACTOR’s Construction General Permit.

G. If the CONTRACTOR fails to comply with the provisions of any city ordinance or permit pertaining to disposal sites the Borough shall have the right, after giving 30 days written notice, to bring the disposal sites into compliance and collect the cost of the work from the CONTRACTOR, either directly or by withholding monies otherwise due under the Contract.

H. The CONTRACTOR shall conduct all operations to prevent contaminating Usable Excavation with Unusable Excavation or otherwise unsuitable material.

I. When frozen material is excavated and meets all other requirements for Usable Excavation, it shall be allowed to thaw and drain prior to placing in the embankment. This material will be considered Usable Excavation and no additional payment will be made.

J. The CONTRACTOR shall provide added care including bracing and shoring as required when excavating adjacent to existing retaining walls, fences and buildings. Damage caused to existing walls, fences and buildings by the CONTRACTOR shall be repaired at the CONTRACTOR's expense.

K. Where excavations occur adjacent to existing roadways or other paved surfaces designated to remain undisturbed the CONTRACTOR shall record existing surface elevations prior to excavating and take necessary measures to ensure pavement is not damaged and existing elevations and grades are maintained throughout the WORK and upon completion. Damage caused to existing pavements by the CONTRACTOR shall be repaired at the CONTRACTOR's expense.

L. After excavation to the sub-cut limit is complete and prior to placing geotextile fabric and backfilling, the bottom of the sub-cut shall be adequately compacted until a firm base for the backfill material is obtained.

3.3 EMBANKMENT

A. Embankments shall be constructed to a reasonably smooth and uniform shape conforming to the lines, grades and cross sections indicated on the Plans or as directed by the ENGINEER.

B. The underlying ground shall be properly prepared, graded, and compacted prior to placing embankment material. Debris shall be removed and surface depressions or holes shall be filled with suitable material to a level uniform surface and compacted before the embankment is constructed.

C. When embankment is to be placed on hillsides steeper than a 4:1 slope, new embankment is to be placed alongside existing embankments, or embankments are to be built half width at a time the foundation shall first be prepared by constructing benches of sufficient width to accommodate placing and compacting equipment. Each bench shall begin at the intersection of the original ground and the vertical side of the previous cut. Material so excavated and suitable for embankment construction shall be incorporated into the new embankment. Benching is incidental to other items in the contract and no direct payment will be made therefore.

D. Wherever an existing compacted roadway surface containing granular material lies within three feet of the new embankment surface, such existing roadway shall be scarified to a depth of six inches and incorporated into the first layer of embankment.

E. Embankments over swampy ground may be constructed by end dumping an initial lift of depth approved by the ENGINEER to support hauling and spreading equipment.

F. If continued hauling over a completed or partially completed embankment causes loss of stability as evidenced by pumping or rutting, or other damage, the CONTRACTOR shall repair the damaged embankment at its own expense and adjust its hauling equipment and procedures to avoid further damage.

G. The finish subgrade surface shall not vary more than 0.1-foot when tested using a 10-foot straightedge, or more than 0.1-foot from established grade. Additionally, the algebraic

average of all deviations from established finished subgrade elevations taken at 100-foot intervals shall be less than 0.05-foot.

3.4 EMBANKMENTS CONSTRUCTED WITH MOISTURE DENSITY CONTROL.

A. Except for embankments constructed predominantly of rock fragments or boulders, all embankments shall be constructed with moisture density control. Embankments shall be placed in horizontal layers not to exceed eight inches in depth, loose measurement, for the full width of the embankment, except as required for traffic, and shall be compacted before the next layer is placed. Embankments shall be compacted at the approximate optimum moisture content to not less than 95% of the maximum density as determined by AASHTO T 180-D unless otherwise noted. Embankment materials may require drying or moistening to bring the moisture content near to optimum. In place field densities will be determined by ATM-213 or ATM-309 as required by the ENGINEER. Sufficient time shall be allowed between layers to allow for field density tests.

3.5 EMBANKMENTS CONSTRUCTED WITH CLASS A SHOT ROCK BORROW

A. Subgrades shall be constructed to the embankment tolerances described in paragraph 3.3 prior to placement of Class A Shot Rock Borrow. The CONTRACTOR shall place grade stakes at all changes in grade and at maximum 50-foot intervals prior to placing Class A Shot Rock Borrow.

B. Embankments shall be placed in horizontal layers not to exceed nine inches in depth, loose measurement, for the full width of the embankment, except as required for traffic, and shall be compacted before the next layer is placed. Compaction of embankments constructed with Class A Shot Rock Borrow shall be achieved by performing a minimum level of compaction effort consisting of six complete coverage passes with a 15-ton vibratory steel drum roller over the complete coverage area of any given lift with equipment suitably equipped by the manufacturer for compacting shot rock material.

END OF SECTION

SECTION 02204 - BASE COURSE

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and placing one or more layers of aggregate base or leveling course on a prepared surface to the lines and grades shown on the Plans.

PART 2 - PRODUCTS

2.1 MATERIAL

A. Aggregate base course shall consist of crushed gravel or crushed stone, conforming to the quality requirements of AASHTO M 147. The aggregate shall be free from lumps, balls of clay, or other objectionable matter, and shall be durable and sound.

1. Base course shall be sampled according to "WAQTC FOP for AASHTO T2 – Sampling Aggregates" as described in the *Alaska Test Methods Manual*, ATM 301 published by the Alaska Department of Transportation and Public Facilities.

2. Coarse aggregate (that material retained on the No. 4 sieve) shall be crushed stone and shall consist of sound, tough, durable rock of uniform quality. Rock shall be free of schist that cleaves along preferred foliation planes. Rock shall be free of platy mineral grains. Metamorphosed rock shall be free of slaty cleavage. All material shall be free from clay balls, vegetable matter or other deleterious matters. Coarse aggregate shall not be coated with dirt or other finely divided mineral matter. All aggregates shall be free of roots and wood. In addition, coarse aggregate shall meet the following requirements:

Property	Value	Test Method
L.A. Wear, %	25 max.	AASHTO T 96
Degradation Value	45 min.	ATM 313
Fracture, %	70 min.	WAQTC FOP for AASHTO TP 61
Plastic Index	6 max.	WAQTC FOP for AASHTO T 90
Sodium Sulfate Loss, %	9 max.	AASHTO T 104

3. Aggregate shall not exceed eight (8) percent thin -elongated pieces as determined by ATM 306.

4. Fine Aggregate: Fine aggregate (passing the No. 4 sieve) shall meet the quality requirements of AASHTO M 29.

B. Base course material shall conform to one of the following gradations as specified:

BASE COURSE GRADATIONS
(Percent passing by weight)

Sieve Designation	A	B	C	C-1	D	D-1	E	E-1
4	100							
2	85-100	100						
1 1/2				100				
1			100	70-100		100		
3/4				60-90	100	70-100	100	
3/8				45-75		50-80		100
No. 4	30-70	30-70	40-75	30-60	45-80	35-50		45-80
No. 8				22-52		20-35		32-80
No. 10			25-55		30-65			
No. 40				8-30		8-30		
No. 200	10Max.	3-10	4-10	0-6	4-12	0-6	0-6	0-6

C. For gradings C, D, & E at least 50% by weight of the particles retained on the No. 4 sieve shall have at least one fractured face as determined by WAQTC FOP for AASHTO TP 61 as described in ATM 305.

D. For gradings A, C-1, D-1 & E-1, at least 70% by weight of the particles retained on a No. 4 sieve shall have at least one fractured face as determined by WAQTC FOP for AASHTO TP 61 as described in ATM 305.

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. Prior to placement of the base course, the underlying surface shall be prepared by dressing, shaping, wetting or drying, and compacting of the underlying material to a minimum of 95% maximum density or as specified in the Plans as determined by AASHTO T 180-D or as specified under Section 02202 – Excavation and Embankment. Surfaces shall be cleaned of all foreign substances and debris.

B. Any ruts or soft yielding spots that may appear shall be corrected by loosening and removing unsatisfactory material and adding approved material as required, reshaping, and recompacting the affected areas to the lines and grades indicated on the Plans. If required by the ENGINEER, the CONTRACTOR shall proof load questionable areas with a loaded truck or other piece of equipment approved by the ENGINEER.

C. Blue tops shall be set to the top of base course. They shall be set by the CONTRACTOR at breaks in grade and on even grade at intervals not to exceed 50'.

D. Base course material shall be deposited and spread in a uniform layer to the required grades, and to such loose depth that when compacted to the density required, the thickness will be as indicated on the plans. Portions of the layer which become segregated shall be removed and replaced with a satisfactory mixture, or shall be remixed to the required gradation.

E. Base course material compaction shall be achieved by performing a minimum level of compactive effort over the complete coverage area with equipment provided by the CONTRACTOR suitably equipped by the manufacturer for compacting base course materials.

1. For each type of material the minimum level of compactive effort shall be established by performing in place density tests in accordance with ATM 213-WAQTC FOP for AASHTO 310.

F. The initial density test at any location will be paid for by the OWNER. If the initial test shows that the material compaction is not as specified, the CONTRACTOR shall modify the compaction methods used, as approved by the ENGINEER, and have the material retested until the tests show that the compaction meets the specification requirements. All tests, after the initial test at any given location, shall be paid for by the CONTRACTOR.

1. If, in the opinion of the ENGINEER, an area appears to have sub-standard compaction or the minimum level of compactive effort requires re-evaluation due to changing site or material conditions additional density tests may be called for by the ENGINEER. The results of such tests shall reestablish the minimum level of compactive effort as determined by the ENGINEER.

G. The maximum compacted thickness of any one layer shall not exceed six (6) inches. If the required compacted depth exceeds six (6) inches, the base shall be constructed in two (2) or more layers of approximately equal thickness. Each layer shall be shaped and compacted before the succeeding layer is placed.

H. Base course shall be compacted to at least 95% of its maximum density or as specified in the Plans, as determined by AASHTO T 180-D.

I. Blading, rolling, and tamping shall continue until the surface is smooth and free from waves and irregularities. If at any time the mixture is excessively moistened, it shall be aerated by means of blade graders, harrows, or other approved equipment, until the moisture content is such that the surface can be recompacted and finished as above.

J. The finished surface of the base course, when tested using a 10-foot straightedge, shall not show any deviation in excess of 3/8-inch between two contact points. The finish surface shall not vary more than 1/2-inch from established grade. Additionally, the algebraic average of all deviations from established grade of the finish base course surface elevations taken at 50-foot intervals shall be less than 0.02-foot.

END OF SECTION

SECTION 02702 – CONSTRUCTION SURVEYING

PART 1 – GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary to perform all surveying and staking necessary for the completion of the Project in conformance with the Drawings and Specifications and standard engineering and surveying practices, including all calculations required to accomplish the WORK.

B. The WORK shall include the staking, referencing and all other actions as may be required to preserve and restore land monuments and property corners which are situated within the Project area, and to establish monuments as shown on the Drawings.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 CONSTRUCTION

A. All surveying involving property lines or monuments shall be done by, or under the direction of, a Registered Land Surveyor licensed in the State of Alaska.

B. The OWNER will supply information relative to the approximate locations of monuments and corners, but final responsibility for locations, referencing, and restoration shall rest with the CONTRACTOR.

C. In the event the CONTRACTOR does not replace the survey monuments and property corners disturbed by the CONTRACTOR's operations, the OWNER may, after first notifying the CONTRACTOR, replace the monuments in question. The cost of such replacements shall be deducted from payments to the CONTRACTOR.

D. The CONTRACTOR shall provide the OWNER with a copy of all surveyors' notes, if requested by the ENGINEER, prior to each Pay Request payment for which payment for Pay Item No. 2702.1, Construction Surveying, is increased from the previous Pay Request payment.

E. The CONTRACTOR shall provide the OWNER with a copy of all surveyors' notes, prior to the request for final payment, and include the information on the record drawings.

F. The CONTRACTOR shall obtain all information necessary for as-built plan production, from actual measurements and observations made by its own personnel, including Subcontractors, and submit this information to the ENGINEER.

G. The CONTRACTOR shall use competent, qualified personnel and suitable equipment for the layout work required and shall furnish all stakes, templates, straightedges and other devices necessary for establishing, checking and maintaining the required points, lines and grades.

H. The CONTRACTOR shall perform all staking necessary to delineate clearing and/or grubbing limits; all cross sections necessary for determination of excavation and

embankment quantities, including intermediate and/or remeasure cross sections as may be required; all slope staking; all staking of culverts and drainage structures, including the necessary checking to establish the proper location and grade to best fit the conditions on site; the setting of such finishing stakes as may be required; the staking of right-of-way; the staking and layout of all structures including foundations, floats, retaining walls, piles, pile caps, deck and sub deck assemblies, railings, and gangways; referencing and other actions as may be required to preserve or restore land monuments and property corners; and all other staking necessary to complete the project.

I. Field notes shall be kept in standard bound notebooks in a clear, orderly and neat manner, consistent with standard engineering and surveying practices. The CONTRACTOR's field books shall be available for inspection by the ENGINEER at any time.

J. All field survey notes, including those which become source documentations from which quantities for payment are computed, shall be recorded by a notekeeper furnished by the CONTRACTOR. The notekeeper shall be thoroughly familiar with generally accepted standards of good survey notekeeping practice.

K. The ENGINEER may randomly spot-check the CONTRACTOR's surveys, staking and computations at the ENGINEER's discretion. After the survey or staking has been completed, the CONTRACTOR shall provide the ENGINEER with a minimum of 72 hours notice prior to performing any WORK, and shall furnish the appropriate data as required, to allow for such random spot-checking; however, the OWNER assumes no responsibility for the accuracy of the WORK.

L. The ENGINEER may make minor adjustments in grades and locations of improvements based on the staking information provided by the CONTRACTOR. The CONTRACTOR shall adjust the grade stakes as required to accommodate minor changes at no additional cost to the OWNER.

END OF SECTION

SECTION 02709 - TOPSOIL

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and placing topsoil at the locations shown on the Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil furnished by the CONTRACTOR shall consist of a natural friable surface soil without admixtures of undesirable subsoil, refuse, or foreign materials. It shall be reasonably free from roots, hard clay, coarse gravel, stones larger than one inch in any dimension, noxious weeds, tall grass, brush, sticks, stubble or other material which would be detrimental to the proper development of vegetative growth.

Topsoil shall be obtained from naturally well drained sites where topsoil occurs at least 4-inches deep. Topsoil shall not be obtained from bogs or marshes.

B. Topsoil shall conform to the following grading:

Sieve Sizes	Percentage Passing
1-inch	100%
1/2 inch	95% - 100%
No.4	75% - 100%
No.10	60% - 100%
No.200	10% - 60%

C. Topsoil shall contain not less than 3%, or more that 20% organic matter, by weight as determined by loss-on-ignition of oven-dried samples in accordance with ATM T-6. Organic material shall be decomposed and free of wood.

D. The ENGINEER shall be notified on the location from which the CONTRACTOR proposes to furnish topsoil at least 30 calendar days prior to delivery of topsoil to the Project from that location. The topsoil and its source will be inspected and tested by the ENGINEER before approval will be granted for its use.

E. Topsoil sources lacking organic matter may be used if, prior to delivery to the Project, sufficient organic matter in the form of pulverized peat moss or rich organic soil from other sources is thoroughly mixed with the topsoil to provide a product meeting the above requirements.

F. Organic material for incorporation into topsoil, if required, shall be partially decomposed fibrous or cellular stems and leaves of any of several species of Sphagnum mosses, or rotted manure. Organic material may require chopping to shredding to insure thorough mixing with the topsoil.

G. All topsoil shall be fertilized as follows: the application rates of the fertilizer and limestone per 1,000 square feet of ground area of topsoil furnished by the CONTRACTOR shall be determined by the ENGINEER, based on soil analysis tests so that the total natural and applied chemical constituents are as follows:

Nitrogen	1.0 lb. minimum - 1.5 lb. maximum per 1,000 square feet
Phosphoric Acid	1.0 lb. minimum - 2.0 lb. maximum per 1,000 square feet
Potassium	1.0 lb. minimum - 2.0 lb. maximum per 1,000 square feet
Limestone	Limestone requirements shall conform to the following table:

LIMESTONE REQUIREMENTS

Soil pH	Limestone Tons per Acre
Above 6.0	0
5.0 - 6.0	1.5
Below 5.0	3.0

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. All areas beyond the sidewalk or roadway shoulder that are disturbed during construction which are not covered with pavement, concrete, or base course, shall be graded to a neat, uniform gradeline and appearance, as determined by the ENGINEER, and covered with a neat uniform, three inch minimum thickness of topsoil and hydroseeded, unless otherwise shown on the Drawings, or directed by the ENGINEER.

B. The topsoil shall be evenly spread on the designated areas to a depth, which, after settlement and compaction, shall be three inches, unless otherwise directed by the ENGINEER. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the WORK, as determined by the ENGINEER. Roadway surfaces shall be kept clean during hauling and spreading operations.

C. After spreading has been completed, large clods, stones larger that one-inch in any dimension, roots stumps, and other litter shall be raked up and removed.

D. The final grading of the topsoil prior to hydroseeding shall be to a tolerance that will not permit ponding of water in excess of one inch in depth.

E. Topsoil Finish Grading, if a pay item will not be approved for start-up until the topsoil has been graded to within the tolerances given above.

1. The CONTRACTOR shall provide labor personnel experienced with landscaping work that involves fine grading of topsoil for residential or commercial lawns.
2. The ENGINEER will determine the location of those areas requiring finish grading and the time required to bring the graded topsoil to the desirable finish appearance.
3. The CONTRACTOR shall remove and dispose of all excess materials resulting form the finish grading of the topsoil. The WORK required to remove and dispose of this excess material from piles placed along the roadway will be considered incidental to other WORK under the contract.

END OF SECTION

SECTION 02710 - SEEDING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for preparing the ground and furnishing and applying seed, fertilizer, lime and mulch as called for in the Contract Documents, all in reasonably close conformity with these Specifications and at locations shown on the Drawings or established by the ENGINEER.

B. It is the intent of these Specifications that a living vegetative cover will be provided in the areas indicated on the Drawings.

C. Seed mix to be used will be as specified in the Bid Schedule.

PART 2 - PRODUCTS

2.1 SEED

A. Seed shall be furnished separately or in mixture in standard sealed containers clearly labeled with Seed name; lot number; net weight; percentages of purity and of germination and hard seed; and, percentage of maximum weed seed content. The CONTRACTOR shall furnish the ENGINEER duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six months of date of delivery. This statement shall include: Name and address of laboratory; date of test; lot number for each kind of seed; and results of tests as to name, percentages of purity and germination, and percentage of weed content, for each kind of seed furnished, and, in the case of a mixture, the proportions of each kind of seed.

B. Seed mixes shall conform to on of the following:

MIX PROPORTION				
TYPE	**VARIETY**	**TYPE I**	**TYPE II**	**TYPE III***
Red Fescue	Pennlawn Boreal Dawson	1/3	1/3	1/3
Tall Fescue		1/3		
Perennial Rye	Manhattan Derby Regal	1/3	1/3	1/3
Blue Grass	Nugget Newport Park		1/3	1/3

* Maximum weed seed content shall be one (1) %.

2.2 FERTILIZER

A. Fertilizer shall be a standard commercial grade fertilizer, supplied separately or in mixtures. Fertilizer shall conform to all State and Federal regulations and shall be 10-20-20. The fertilizer shall contain slow release nitrogen in the form of inorganic chemicals amounting to at least 75% of the available nitrogen specified.

B. Fertilizer shall be furnished in new, clean, sealed, moisture-proof, and properly labeled containers, clearly labeled with the name, weight, and guaranteed analysis of the contents.

C. Fertilizer for use in a hydraulic sprayer shall be soluble or ground to a fineness that will permit complete suspension of all insoluble particles in the water or slurry.

2.3 LIME

A. Lime shall be agricultural ground limestone containing not less that 85% dolomite, with 95% passing through a 100-mesh screen, delivered to the site in the original unopened containers labeled to show analysis.

B. Limestone for use in a hydraulic sprayer shall be soluble or ground to a fineness that will permit complete suspension of all insoluble particles in the water or slurry.

2.4 MULCH

A. Mulch shall be natural or cooked wood cellulose fiber which shall have the property of dispersing readily in water and shall have no toxic effect when combined with seed or other materials. The homogeneous slurry or mixture shall be capable of application with power spray equipment. A colored dye which is noninjurious to plant growth may be used when specified. Wood cellulose fiber shall be packaged in new, labeled containers, shall have an equilibrium air-dried moisture content of 12% plus or minus three percent at the time of manufacture, and shall have a pH range of 3.5 to 5.0.

PART 3 – EXECUTION

3.1 SOIL PREPARATION

A. After grading, and topsoiling if required, has been completed in conformity with the lines and grades shown on the Drawings or staked by the ENGINEER, and before start of seeding operations, the areas to be seeded shall be cultivated to provide a reasonably firm, but friable seedbed. Cultivation shall be carried to a depth of two-inches, except on slopes steeper than 3:1. Depth of cultivation may be reduced as directed by the ENGINEER. All cultivated areas shall be raked or cleared of stones one inch in diameter and larger. All weeds, plant growth, stick, stumps, and other debris or irregularities which might interfere with the seeding operation, growth of grass, or subsequent maintenance of the grass covered areas, shall be removed.

3.2 SEEDING SEASONS

A. All seeding shall be completed after May 1st and prior to August 15th, or the contract deadline, whichever is sooner. Seeding other than the specified dates will be allowed

only with prior written permission of the ENGINEER and will be at the CONTRACTOR's own risk. If the seeding fails to produce a uniform and fecund growth, the seeding will be repeated until the required growth is achieved.

B. Seeding shall not be done during windy conditions, or when climactic conditions or ground conditions would hinder placement or proper growth.

3.3 APPLICATION METHODS

A. Seed, fertilizer, ground limestone and mulch material shall be placed by one of the following methods.

1. Hydraulic Method

a. Seeding by hydraulic methods shall consist of furnishing a slurry made of seed, fertilizer, ground limestone, wood cellulose fiber mulch, and water, and applying the slurry under pressure to the designated area.
b. A slurry unit shall consist of a mixture of the following proportionate quantities of water, mulch fiber, seed, fertilizer and ground limestone:

Water	1,000 gallons
Mulch Fiber	200 pounds
Seed	35 pounds
Fertilizer	120 pounds
Ground Limestone	500 pounds

c. An adequate scale shall be provided by the CONTRACTOR to weigh the mix proportions.
d. The mixing and application shall be as follows:

1) Fill the tank with water to one-third full and agitate at half speed. Add fertilizer, ground limestone and one-half the required mulch fiber.
2) Fill the tank to two-thirds full and agitate at full speed. Add the remaining mulch fiber.
3) Agitate at full speed and add water until the tank is full, then add the seed. Begin slurry distribution after five minutes of agitation.

e. After fertilizer and seed are placed in the hydraulic seeder, the mixture shall be completely applied within one hour. Seed remaining in contact with fertilizer for more than one hour shall be rejected and additional seed at the specified rate shall be added at no additional cost.
f. The slurry mixture shall be spread uniformly at the application rate, as directed by the ENGINEER, upon the areas designated. Application rates shall be one slurry unit per 5,000 to 10,000 square feet, as directed by the ENGINEER
g. Hydraulic seeding equipment shall be capable of maintaining a continuous agitation so that a homogeneous mixture can be applied through a spray nozzle. The pump shall be capable of producing sufficient pressure to maintain a continuous, non-fluctuating spray capable of reaching the extremities of the seeding area with the pump unit located on the roadbed.

Sufficient hose shall be provided to reach areas not practical to seed from the nozzle unit situated on the roadbed.

2. Dry Method

a. Mechanical spreaders, seed drills, landscape seeders, culitipacker seeders, fertilizer spreaders, or other mechanical spreading equipment approved by the ENGINEER may be used when seed and fertilizer are to be applied in dry form.
b. Fertilizer, and ground limestone if required, shall be spread separately at the specified rates and then incorporated in one operation to a minimum depth of two inches. Weather and soil conditions permitting, seeded areas shall be compacted, within 24 hours from the time the seeding is completed, by culitpacker, roller, or other equipment approved by the ENGINEER.
c. Compacting equipment shall be operated at right angles to the slope. Compaction shall not be performed when the soil is in such condition that it will be picked up by the compacting equipment, nor shall heavy soils be compacted at all if so directed by the ENGINEER.
d. Hand-operated seeding devices may be substituted provided that the rate of application for both seed and nutrient is twice that of dry mechanical methods, and that the end result required is attained. Hand-operated seeding devices may be used only upon prior written approval of the ENGINEER.

3.4 MAINTENANCE OF SEEDED AREAS

A. The CONTRACTOR shall protect seeded area against traffic by warning signs or barricades, as approved by the ENGINEER. Surfaces gullied or otherwise damaged following seeding shall be repaired by re-grading, re-seeding, and re-mulching, as directed by the ENGINEER, and the CONTRACTOR shall otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the WORK.

B. The seeded areas shall be watered by the CONTRACTOR as required for proper germination and growth. Equipment used in watering shall be capable of reaching all seeded areas from the traveled way.

3.5 INSPECTION AND ACCEPTANCE

A. Acceptance of seeded areas shall be based on a uniform stand of vegetation at the time of final inspection. Areas failing to show a uniform stand after germination shall be scarified and reseeded as herein specified.

END OF SECTION

SECTION 02718 –LANDSCAPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section shall include all labor, materials, tools and equipment necessary for furnishing, handling, transporting, backfilling, grading and installing of drainage liner, washed rock, filter fabric, classified fill, topsoil, grass seed and all other related Work, complete to the dimensions, lines, grades, and cross sections indicated in the Plans or as directed by the ENGINEER.

1.2 SUBMITTALS

A. Geotextile Drainage Liner Fabric manufacturer's product data.

B. Geotextile Filter Fabric manufacturer's product data.

C. Stainless steel wire mesh and adhesive manufacturer's product data.

PART 2 - PRODUCTS

2.1 FILTER AND LINER FABRIC

A. Filter Fabric shall be Mirafi N-Series 140N non-woven geotextile produced by TenCate Geosynthetics, http://www.tencate.com or approved equal.

B. Liner Fabric shall be Mirafi S-Series S800 non-woven geotextile produced by TenCate Geosynthetics, http://www.tencate.com or approved equal

C. During all periods of shipment and storage, the fabric shall be protected from direct sunlight, ultraviolet rays, temperatures greater than 140º F, mud, dirt, dust, and debris. To the extent possible, the cloth shall be wrapped in a heavy-duty protective covering.

2.2 DRAIN PIPE

A. Drain pipe shall be polyvinyl chloride (PVC) compound, Type 1 Grade 1, with a cell classification of 12454 as defined in ASTM D1784. Provide schedule 80 PVC drain pipe in sizes called out in the Plans.

B. A drain cover shall be installed for each PVC pipe drain penetration and shall consist of a 12-inch x12-inch square section of 4 mesh 21-gauge, 316 stainless-steel welded wire mesh to prevent drain rock from passing though the drain. Secure properly with an adhesive to prevent displacement prior to placing drain rock. Adhesive shall be recommended for use with the waterproof membrane by the membrane manufacturer and shall be install in a manner so as not to impede drainage and the flow of water.

2.3 DRAIN ROCK

A. Crushed Aggregate Drain Rock shall be crushed stone or crushed gravel, consisting of sound, tough, durable pebbles or rock fragments of uniform quality. Free from clay balls, vegetable matter, or other deleterious matters, and with no adherent films or coatings of

dirt, clay, dust or other deleterious matter that could impede drainage. Wash the aggregate if necessary.

Meet the following requirements:

L.A. Wear,% AASHTO T 96	45, max.
Degradation Value ATM 313	50, min.
Sodium Sulfate loss,% AASHTO T 104	9, max. (5 cycles)
Fracture,% WAQTC FOP for AASHTO TP 61	90, min. (single face)

Drain Rock shall conform to the following gradation:

SIEVE SIZE	% PASSING BY WEIGHT
1-Inch	100
3/4-Inch	90-100
1/2-Inch	20-55
3/8-Inch	0-15
No. 200	0-1

2.4 CLASSIFIED FILL

A. Classified fill material identified on the drawings for landscaping shall be a clean, course, washed sand and conform to the following:

1. Particle size distribution:

Sieve	**Particle Size**	**Percent Passing**
3/8 in	9.50 mm	100
No. 4	4.75 mm	95 to 100
No.8	2.36 mm	80 to 100
No. 16	1.18 mm	45 to 85
No. 30	0.6 mm	15 to 60
No. 50	0.3 mm	3 to 15
No. 100	0.15 mm	0 to 4

2. Effective Particle Size (D_{10}): 0.3 mm – 0.5 mm
3. Uniformity Coefficient (D_{60}/D_{10}): < 4.0

2.5 TOPSOIL

B. Shall comply with Section 02709 - Topsoil.

2.6 GRASS SEED

A. Shall comply with Section 02710 - Seeding.

2.7 MAINTENANCE PERIOD AND WARRANTY

A. Warranty Periods: Commencement of the maintenance and warranty period shall begin upon completion of the Acceptance Inspection. Warranty periods are as follows:

Exterior Plants:

Trees, Shrubs, Vines and Ornamental Grasses: One year.
Groundcover, Biennials, Perennials and Other Plants: One year.

B. Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period at no cost to the Owner.

1. Failures include, but are not limited to, the following:
   a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
2. Include the following remedial actions as a minimum:
   a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
   b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
   c. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements including maintenance.
   d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

PART 3 - EXECUTION

3.1 GENERAL

A. Field confirm all existing conditions and measurements required to complete WORK prior to installation. Notify ENGINEER of any discrepancies prior to installation.

B. Construction methods and products not specified in these Contract Documents shall be utilized using reasonable care and the highest quality of construction practices. Final inspection and acceptance of all Work and products not specified in these Contract Documents shall be made by the ENGINEER. Approval shall be based upon conformance to the Contract Documents, quality of workmanship, applicable industry standards, and pertinent manufacturer’s recommendations.

3.2 INSTALLATION

A. Filter fabric shall be placed in the manner and at the locations shown on the Drawings or as directed by the ENGINEER. At the time of installation, fabric shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

B. The surface upon which the filter fabric is to be placed shall be free of projections or depressions, and rocks, roots, and other sharp objects which may cause the filter fabric to be punctured. The filter fabric shall be placed without stretching and shall lie smoothly in contact with the soil or wall surface. When overlapping of strips is necessary, the joints shall be overlapped a minimum of two feet. End overlaps shall be made in the direction of flow.

C. Following placement of the fabric on the prepared surface, material of the type shown on the Drawings shall be back-dumped on the previously spread fabric or ground adjacent to the fabric and carefully pushed or spread onto the fabric by hand or with suitable machinery. A minimum depth of one foot, or the depth shown on the Drawings, shall be maintained at all times between the fabric and the wheels or tracks of the construction equipment. At no time shall equipment operate on the unprotected fabric. The material shall be spread in the direction of the fabric overlap. Special care shall be taken to maintain a proper overlap and fabric continuity.

3.5 CLEAN-UP AND PROTECTION

A. The Contractor shall keep the project site clean and free of excess materials, and rubbish incidental to his work at all times. Clean-up will be one of the conditions to be met prior to all phases of planting acceptance.

B. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

C. Erect barricades and warning signs as needed to protect newly planted areas from traffic. Recommendation is to set string with fluorescent ribbon flagging at a height of approximately 36 inches, attached to stakes at 60-inch intervals. Maintain barricades throughout maintenance period and remove after lawn is established.

D. Remove erosion-control measures after grass establishment period.

3.6 DISPOSAL

A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION

SECTION 02726 –TIMBER DOCK

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section shall include all labor, materials, tools and equipment necessary for fabrication, handling, transport, construction and installation of the complete new sloped timber dock including all steel pile cap assemblies, glulam stringers, timber decking, bullrail, complete railing system, all miscellaneous appurtenances, attachments, weldments and hardware, and all other related Work in accordance with requirements of the Contract Documents and as shown in the Plans.

B. The WORK under this Section shall also include all labor, materials, tools and equipment necessary for fabrication, handling, transport, construction and installation of the existing dock modifications including all timber decking, stringers, blocking, bullrail, complete railing system, and all miscellaneous appurtenances, attachments, weldments and hardware, and all other related Work in accordance with requirements of the Contract Documents and as shown in the Plans

1.2 REFERENCES

A. AWPA (American Wood Preservers Association), 2002 Standards

B. WWPA (Western Wood Products Association) Western Lumber Grading Rules, 1998

C. AISC (American Institute of Steel Construction) Code of Standard Practice - Manual of Steel Construction (ASD).

D. ASTM (American Society of Testing Materials) Specifications

E. AITC (American Institute of Timber Construction) Standard No. 117-87

1.3 SUBMITTALS

A. Structural Steel Submittals per Section 05120 – Metal Fabrication.

B. Timber Fabrication Shop Drawings for all fabricated timber items.

C. Timber Grading and Pressure Treatment Certification for all timbers utilized for fabrication and construction of docks.

D. Timber treatment product for filed treatment of timbers. Submit product specifications from manufacturer for filed treating of both ACZA treated timbers and creosote treated timbers.

E. Handrail Sealer Product. Submit product specific material specifications from manufacturer.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials shall conform to the Contract Documents and as shown on the Plans. Purchase orders shall contain all necessary information to ensure that materials purchased will comply with the fore mentioned documents. The fabricator shall inspect all materials, upon arrival, for conformance with the purchase orders, and the fabricator shall confirm that mill certificates and test reports are provided and that they correctly identify the materials delivered. If a supplier proposes a substitute for any material, the proposed substitution shall be submitted to the ENGINEER for approval prior to commencing any work involving use of the proposed substitute material. Supplier must be prepared to supply materials as identified on the design documents if the proposal for a substitution is not approved by the ENGINEER.

B. All materials shall conform to good workmanship, acceptable industry standards and manufacturer's recommendations.

2.2 TIMBER

A. All sawn lumber shall be surfaced four sides (S4S), unless otherwise noted, and graded in accordance with the West Coast Lumber Inspection Bureau Standard No. 17, meeting Douglas Fir select structural grade for 4x and 6x decking, and No. 1 and better for 12x members and all other miscellaneous lumber. No individual timber shall fall outside the specified grade. Each piece of lumber shall be stamped with a grade mark, which identifies the grading and certification, and shall be so marked as to be legible after pressure treatment. All sawn lumber shall be pressure treated, after fabrication, with ACZA in accordance with AWPA C2 to a net retention of not less than 0.6 pounds per cubic foot, unless otherwise noted. Fabrication and drilling of timber shall be done as much as possible before pressure treatment. Field cuts and minor damage areas shall be field treated per AWPA M-4 using copper napthenate. Field drilled holes shall be field treated with copper napthenate then swabbed with asphaltic mastic, or approved equal. Bolts holes shall be 1/8 inch oversized.

B. Deck timbers shall be S1S2E. Gap widths between installed deck timbers shall be a minimum of 1/8-inch and a maximum of 3/8-inch. As much as possible, deck timbers shall be evenly spaced. CONTRACTOR shall determine total number of deck boards required to achieve the spacing requirements indicated above, and shall layout deck boards along the dock prior to nailing of timbers.

C. Handrail material shall be Ipe hardwood, select grade, no knots nor sap, without pressure treatment. Hardwood shall be graded and inspected according to National Hardwood Lumber Association, "*Rules for the Measurement and Inspection of Hardwood and Cypress"* to FIF (FAS One Face) grading requirements or approved equal. Handrail shall have a penetrating, pigmented, UV inhibiting sealer applied to all surfaces, unless otherwise noted. All ends, including field cut ends, shall be sealed immediately after cutting with an end sealer as recommended by the hardwood supplier and as approved by the ENGINEER. Pre-drill as required for all screw fasteners.

D. All Glued-laminated timber stringers shall be manufactured with Coast Region Douglas Fir that conforms to AITC Standard No. 117-87 specifications and shall be manufactured combination 24F-V8 in balanced combinations having equal design values for both the positive and negative bending. The glulam members shall have an industrial finish, shall be for exterior use and have design values equal to or exceeding the following when loaded perpendicular to the widest faces of the laminations.

Bending (Fb) = 2,400 p.s.i.
Horizontal Shear (Fv) = 265 p.s.i.
Modulus of Elasticity (E) = 1,800,000 p.s.i.

Unless otherwise noted, all glued-laminated timbers shall be pressure treated with creosote per AWPA C-28 to a minimum retention of 12 pounds per cubic foot. Fabrication and drilling of glulams shall be completed as much as possible before pressure treatment. Field drilled holes, cuts and minor damaged areas shall be field treated per AWPA M-4, with an ENGINEER approved treatment product. Glued-laminated timber ends that have been field cut after treatment, and will have exposed ends shall be coated with a thin layer of asphaltic mastic and then covered with "Grace Vycor Plus Self Adhered Window Flashing". Secure flashing with copper or galvanized nails as required. Bolt holes shall be 1/8 inch oversized.

2.3 FIELD TREATMENT COMPOUNDS

A. Treatment compounds for holes and cuts to treated timber shall be: Copper napthenate solutions in concentrations as specified by AWPA M-4 and mastic shall be applied to bolt holes after treatment with copper napthenate per manufacturer's instructions.

B. Mastic shall be coal tar mastic complying with ASTM D450.

2.4 STRUCTURAL STEEL AND HARDWARE

A. All structural steel shall comply with Section 05120 - Metal Fabrication.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Field confirm all existing conditions including existing deck elevations to match and all measurements required to complete WORK prior to installation. Notify ENGINEER of any discrepancies prior to installation.

B. Confirm final assembly and layout of new timber elements with ENGINEER prior to final installation.

C. The Contractor shall match the existing dock deck elevations. Any modifications to field fit the existing dock modifications shall be incidental to the Work and shall be directed by the ENGINEER prior to final acceptance.

D. Provide temporary support as required to existing structural elements designated to remain during erection of new materials.

E. Construction methods and products not specified in these Contract Documents shall be utilized using reasonable care and the highest quality of construction practices. Final inspection and acceptance of all Work and products not specified in these Contract Documents shall be made by the Engineer. Approval shall be based upon conformance to the Contract Documents, quality of workmanship, applicable industry standards, and pertinent manufacturer's recommendations.

END OF SECTION

SECTION 02896 - STEEL PIPE PILES

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK in this Section shall include all labor, materials, tools and equipment necessary to furnish and install all dock support piles, pile splices, pile driving shoes, all miscellaneous steel plates, appurtenances and hardware, and all other related WORK in accordance with the requirements of the Contract Documents and as shown on the Plans.

B. The WORK in this Section shall include all labor, materials, tools and equipment necessary to furnish and install the complete cofferdam pipe system, miscellaneous appurtenances and hardware, and all other related WORK in accordance with the requirements of the Contract Documents and as indicated on the Plans.

1.2 REFERENCES

A. ASTM A252 - Welded and Seamless Steel Pipe Piles

B. ASTM A139 – Electric-Fusion (Arc)-Welded Steel Pipe

C. AWS D1.1 - Structural Welding Code - Steel

1.3 SUBMITTALS

A. Manufacturer's Mill Certificate: Steel Certification including chemistry, yield strength, and mill numbers.

B. Shop Drawings for all fabricated items per Section 05120 – Metal Fabrication.

C. Welding Procedures and Welder Certification per Section 05120 – Metal Fabrication.

D. Pile Splice Design: Preapproved pile splices for ASTM A252, Grade 3 material shall meet AWS D1.1 requirements and shall be submitted for ENGINEER review.

E. Pile Installation Plan: Provide written narrative and illustrations as necessary to fully describe the complete pile installation plan. The plan shall address, as a minimum, all equipment, labor, temporary pile support and template systems, methods/means to align and maintain pile alignment, survey control, work sequence, and method of installation. The plan shall include pile hammer types and sizes, as well as manufacturers' recommendations and information on hammer cushion, and a written description of means and methods for all pile installation work. The CONTRACTOR shall not mobilize hammers, drill equipment, or any other pile installation related equipment prior to receiving written approval, from the ENGINEER, for the pile installation plan. The CONTRACTOR should allow one week for review of the plans by the ENGINEER. All pile driving means and methods shall meet the requirements of the permits issued for this project.

F. Manufacturer's information on all pile hammers and drill equipment intended for use, complete with satisfactory data to ensure properly suited for installation of pipe piles.

G. Galvanizing certificates verifying that coated material conforms to Specifications.

H. Pile Driving Shoes: Submit manufacturer's published literature for specific product, including specifications, and installation requirements for driving shoe pile tips as shown on the Plans or as required by CONTRACTOR's drilling equipment, and means/methods.

1.4 TRANSPORTATION, STORAGE AND HANDLING

A. All piles shall be configured and positioned during transportation and storage such that each pile location is maintained, is in a straight alignment, is supported in an adequate manner and interval along its length, and is stacked in a limited number of tiers so as to prevent distortion, deflection and not exceed allowable stresses for the piles. Piles shall not be allowed to be in contact with each other in such a manner that the pile coatings are damaged.

B. The CONTRACTOR shall be responsible for all lifting and handling means/methods and shall ensure allowable stresses are not exceeded and coatings are not damaged.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials shall conform to the Contract Documents and as shown on the Plans. Purchase orders shall contain all necessary information to ensure that materials purchased will comply with the Contract Documents. The fabricator shall inspect all materials, upon arrival, for conformance with the purchase orders, and the fabricator shall confirm that mill certificates and test reports are provided and that they correctly identify the materials delivered. If a supplier proposes a substitute for any material, the proposed substitution shall be submitted to the ENGINEER for approval prior to commencing any work involving use of the proposed substitute material. Supplier must be prepared to supply materials as identified in the Contract Documents if the proposal for a substitution is not approved by the ENGINEER.

B. All materials incorporated into this project shall be new, unless otherwise noted on the Plans. Material not specifically noted in the Contract Documents or on the Plans shall be submitted by the CONTRACTOR for approval by the ENGINEER. Approval will be based on conformance to current standards utilized by the OWNER.

C. All materials shall conform to good workmanship, acceptable industry standards and manufacturer's recommendations.

2.2 PILES

A. Unless otherwise noted herein, all steel pipe piles shall be seamless or straight seam pipe conforming to ASTM A252, Grade 3, with ASTM A36 chemistry. Carbon Equivalency shall not exceed 0.45 based on the following formula:

$$CE = \frac{(C+Mn+Si)}{6} + \frac{(Cr+Mo+V)}{5} + \frac{(Ni+Cu)}{15}$$

Spiral weld pipe may be used provided it conforms to ASTM A252, Grade 3, modified to include testing of production weld test specimens in accordance with ASTM A-139,

Section 14.2. In lieu of acceptable quality assurance pertaining to coil butt splices, coil butt splices shall be removed. Carbon Equivalency shall not exceed 0.45.

B. All steel pipe piles shall be hot-dip galvanized, full length, in accordance with ASTM A123, unless otherwise noted on the Plans.

C. All steel pipe piles shall be furnished, complete with pile tips, in the lengths indicated on the Plans. Piles shall be delivered full length or field spliced in accordance with approved welding and galvanizing repair procedures. No additional compensation shall be made for splicing piles to make up the pile lengths shown on the Plans.

D. Pile driving shoes shall have no dimension exceeding the outside diameter of the piles and shall be compatible with all socketing equipment and means/methods used by the CONTRACTOR.

E. Miscellaneous steel plates, shapes and fabricated metal weldments shall be ASTM A36, hot-dip galvanized per ASTM A123 or A153, and comply with Section 05120 – Metal Fabrication.

PART 3 - EXECUTION

3.1 PREPARATION AND PROTECTION OF COATINGS

A. The CONTRACTOR is responsible to become familiar with the site conditions and any available geotechnical information, prior to bid, so as to make their own assessment of pile installation means and methods. It is recommended that the CONTRACTOR visit the site, prior to bid, to assess the site conditions, particularly during a minus tide.

B. Galvanized coatings damaged due to fabrication, welding, material handling or occurring during installation shall be repaired per Section 09900 – Coatings.

3.3 INSTALLATION

A. The CONTRACTOR shall submit a detailed work plan including technical narrative and illustrations, as necessary for all proposed pile installation methods. The CONTRACTOR shall not mobilize hammers and related equipment prior to receiving written approval of the plan. All driving methods shall meet the requirements of the PERMITS issued for this project.

B. An impact hammer of suitable size shall be utilized for final driving and acceptance of all piles, unless otherwise approved by the ENGINEER. Bearing piles shall be driven full length and/or to the minimum required pile capacities indicated on the Plans. Acceptance of a driven pile and determination of pile refusal shall be made solely by the ENGINEER.

C. Impact hammers shall be selected by the CONTRACTOR, subject to review by the ENGINEER, prior to mobilizing to the project site. The impact hammer shall be single-acting, and of adequate size to effectively drive piles with spin-fin tips to achieve the embedment and ultimate bearing capacities identified on the Plans. Pile ultimate bearing capacities shall be determined by the following equation:

$$P_{ult} = \left[\frac{12 * E}{S + 0.1}\right]\left[\frac{R}{R+C+P}\right]$$

P ult = Ultimate Capacity (lbs)
E = Hammer Energy (ft-lbs)
S = Set (inches per blow)
R = Weight of Ram (lbs)
C = Weight of Cap Block (lbs)
P = Weight of Pile (lbs)

CONTRACTOR's selection of impact hammer shall take into account the reduction in hammer energy due to both efficiency and the 2:1 batter configuration shown on the plans. CONTRACTOR may be required to mobilize a larger hammer, at no additional cost to the OWNER, if the originally proposed hammer is not able to advance the piles as required.

Any hammer that causes damage to the piles during driving operations shall be substituted with an acceptable alternative hammer at no additional expense to the OWNER. Impact hammer shall be supplied with new cap block cushions, which shall be changed at the manufacturer's recommended interval. The CONTRACTOR's submitted driving plan shall include manufacturer's recommendations and information on hammer cushion.

D. Obstructions may be encountered at or below mudline during pile driving. Any obstructions encountered within five feet of the existing mudline shall be removed at no additional cost to the OWNER. Obstructions extending below five feet from mudline elevation that require removal shall be removed in accordance with General Conditions, Article 10 – Changes in the Work. The CONTRACTOR shall be prepared to immediately remove obstructions in the event they are encountered, or shall alternatively move to other contract Work to prevent delays.

E. Bearing piles shall be installed within 1% of specified vertical alignment and within 2 inches of specified location at cutoff, unless otherwise noted.

F. Batter piles shall be driven using a fixed template, firmly secured to a substantial support. The template, or suitable temporary bracing, shall remain in place until the pile is welded into its final, permanent location. Damaged coatings shall be repaired in accordance with Section 05120-Metal Fabrication.

G. All pile installations shall be conducted with the ENGINEER present. The CONTRACTOR shall assist the ENGINEER in monitoring the pile driving. Unless otherwise directed by the ENGINEER, the CONTRACTOR shall mark each pile with one-foot increments, with every five-foot increment numbered. The marks shall be visible and readable from all sides of the pile above local extreme low tide level. CONTRACTOR shall provide notification to ENGINEER a minimum of 24 hours prior to any pile installation.

H. Pile driving methods shall not cause damage to any nearby structures. CONTRACTOR shall utilize all means necessary to protect the existing, nearby structures from damage.

I. A temporary pipe cofferdam shall be used for installation of the single dock support pile indicated on the Plans. The cofferdam shall be of the diameter shown and length as required; adequately braced to prevent movement; filled with gravel material and dewatered as needed to achieve "dry conditions" within the cofferdam pipe, and shall comply with all relevant environmental regulations and permits. Cofferdam pipe shall be installed prior to pile installation, maintained during pile installation, and then removed following pile installation. Supply, installation, maintenance, use and removal of the cofferdam pipe system will be considered as a Lump Sum Pay Unit.

J. Piles shall be cut off at the elevations indicated on the Plans and by a method approved by the ENGINEER. All cutting shall be done in a neat manner and be of quality workmanship. All steel pipe pile cutoffs shall become the property of the CONTRACTOR and shall be removed in their entirety from the project site.

K. Construction methods and products not specified in these Contract Documents shall be utilized using reasonable care and the highest quality industry standard construction practices. Final inspection and acceptance of all Work and products not specified in these Contract Documents shall be made by the ENGINEER. Approval shall be based upon conformance to the Contract Documents, quality of workmanship, applicable industry standards, and pertinent manufacturer's recommendations.

L. The project permits place some restrictions on pile driving operations. Please review the mitigation measures identified within Section 00852 Permits.

END OF SECTION

SECTION 02900 – CONTINGENT WORK – PILE OBSTRUCTION REMOVAL

PART 1- GENERAL

1.1 DESCRIPTION

A. The WORK under this Section shall be performed on a contingency basis and shall be field directed by the ENGINEER during construction. The contingent work includes providing all labor, materials, tools, and equipment necessary to remove obstructions greater than 5ft below the seafloor surface that impede the installation of steel pipe piles. All WORK shall be in accordance with the Contract Documents and field directives provided by the ENGINEER.

B. The Bid Proposal includes a contingent sum of $20,000 as the bid price required for all prospective bidders. There is no guarantee that any of this amount or the entire amount shall be compensated under this contract. The final payment amount shall be based upon the contingency work required to remove pile obstructions as directed by the ENGINEER.

1.2 SUBMITTALS

A. The CONTRACTOR shall provide a written Work Plan for removing obstructions encountered below the surface prior to mobilizing to the site. The plan shall describe labor, material and equipment anticipated for obstruction removal as well as logical sequencing and scheduling of temporary falsework and permanent piles to avoid impacts to production activities.

B. The Work Plan shall be reviewed, revised as necessary and approved by the ENGINEER prior to mobilizing to the site.

PART 2 – PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL

A. The CONTRACTOR shall mobilize suitable equipment to remove subsurface obstructions along with regular mobilization activities as outlined under Section 01505. Anticipated equipment includes clamshell type dredging equipment capable of excavating marine soils, large boulders, timber remnants and natural organic debris to varying depths.

B. WORK to remove pile obstructions under this Section shall be compensated as outlined under Section 00700 Article 11.3 COST OF WORK (BASED ON TIME AND MATERIALS).

C. Construction methods not specifically described shall be utilized using reasonable and prudent care and industry standard construction practices for heavy marine construction. Final inspection and acceptance of all WORK shall be made by the ENGINEER.

Approval shall be based upon conformance to the Contract Documents including logistical planning efforts, quality of workmanship, industry standards and pertinent manufacturer's recommendations.

END OF SECTION

SECTION 03301 - STRUCTURAL CONCRETE

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 Portland cement concrete for structures in conformance with the Drawings and Specifications.

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:

The amount of deleterious substances shall not exceed the following limits:
Friable particles, percent by weight .....5% max.
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.
Material passing the No. 200 sieve, percent by weight .....3.0% max.

B. Delete paragraph 4.2 of AASHTO M 6.

2.3 COARSE 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:

The amount of deleterious substances shall not exceed the following limits:
Coal and Lignite, percent by weight (only material that is brownish-black or black shall be considered coal or lignite.)..... 1.0% max.
Material passing the No. 200 sieve, percent by weight ..... 1.0% max.
Thin-elongated pieces, percent by weight.
(Length greater than 5 times average thickness)..... 15%max.
Sticks and roots, percent by weight ..... 0.10% max.
Friable Particles, percent by weight..... 0.25% max.
Maximum loss from AASHTO T 96 shall be 50 percent.
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 JOINT FILLERS. Joint filler, of the type designated in the contract, shall conform to the following:

A. Poured filler shall conform to AASHTO M 173 or AASHTO M 282 as specified.

B. Preformed fillers shall conform to AASHTO M 33 for bituminous type; AASHTO M 153 for sponge rubber (type I), cork (type II), and self-expanding cork (type III; AASHTO M 213 for non-extruding and resilient bituminous types and ASHTO M 220 for preformed elastomeric types as specified. The filler shall be punched to admit the dowels where called for on the plans. Joint filler shall be furnished in a single piece for the depth and width required for the joint unless otherwise authorized by the ENGINEER. When more than one piece is authorized for a joint, the abutting ends shall be fastened securely, and held accurately to shape, by stapling or other positive fastening satisfactory to the ENGINEER.

C. Foam filler shall be expanded polystyrene filler having a compressive strength of not less than 10 p.s.i..

D. Hot-poured sealants for concrete and asphaltic pavements shall conform to ASTM D 3405.

E. Hot-poured elastomeric type sealant for concrete pavements shall conform to ASTM D 3406.

F. Cold-poured silicone type sealant for concrete pavements shall conform to Federal Specification TT-S-1543, Class A. The sealant shall be a one part, low-modulus silicone rubber with an ultimate elongation of 1,200 percent.

2.5 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" shall be modified by adding the following:

1. Liquid membrane-forming compounds utilizing linseed oil shall not be used.

2.6 AIR ENTRAINING AGENTS. Air-entraining admixtures shall conform to the requirements of AASHTO M 154.

2.7 MIXING WATER. Unless otherwise permitted in writing by the ENGINEER, all water shall be obtained from the City/Borough potable water system.

2.8 REINFORCING STEEL. Unless specified otherwise, reinforcing shall be galvanized and conform to ASTM A767, Grade 60, excluding the requirement for chromating. Welded wire

fabric shall conform to AASHTO M 55. Submit material certifications for all reinforcing steel.

2.9 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.

2.10 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:

Minimum cement content 7 sacks (658 lb.) per C.Y.
Maximum water/cement ratio = 0.40
28 day compressive strength (f'c) 4000 psi unless otherwise noted.
Slump 3" $\pm$ 1"
Entrained Air 4% to 7%
Coarse Aggregate AASHTO M 43, Gradation No. 67
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.

2.11 SAMPLING AND TESTING

A. The CONTRACTOR shall retain an independent agency, acceptable to the OWNER and ENGINEER, to sample and test concrete 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.

2.12 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.

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.

2.13 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.

C. Forms shall be so designed that placement and finishing of the concrete will not impose loads on the structure resulting in adverse deflections or distortions.

D. 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.

E. When possible, forms shall be daylighted at intervals not greater than 10 feet vertically, the openings being sufficient to permit free access to the forms for the purpose of inspecting, and working.

F. 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.

G. All exposed edges 90° or sharper shall be chamfered 3/4 inch unless otherwise noted. Chamfering of forms for re-entrant angles shall be required only when specifically indicated on the Plans.

H. Forms shall be inspected immediately prior to the placing of concrete. Dimensions shall be checked carefully and any bulging or warping shall be remedied. 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.

I. Forms shall be constructed true to line and grade. Clean-out ports shall be provided at construction joints.

J. All forms shall be installed in accordance with approved fabrication and erection plans.

K. All porous forms shall be treated with non-staining form oil or saturated with water immediately before placing concrete.

L. Falsework shall be built to carry the loads without appreciable settlement. Falsework that

cannot be founded on solid footings must be supported by ample falsework piling. Falsework shall be designed to sustain all imposed loads.

M. Detail drawings of the falsework shall be submitted for review, but such review shall not relieve the CONTRACTOR of any responsibility under the contract for the successful completion of the structure.

N. Forms and falsework shall not be removed without the consent of the ENGINEER. The ENGINEER's consent shall not relieve the CONTRACTOR of responsibility for the safety of the WORK. Blocks and bracing shall be removed at the time the forms are removed and in no case shall any portion of the wood forms be left in the concrete.

O. To facilitate finishing, forms used on exposed vertical surfaces shall be removed in not less than 12 nor more than 48 hours, depending upon weather conditions.

P. In warm weather, falsework and forms shall remain in place under slabs, beams, girders and arches for 14 days after the day of last pour when Type I or Type II cement is used, or for 7 days when Type III cement is used. Forms for slabs having clear spans or cantilever spans of less than 10 feet may be removed after 7 days when Type I or Type II cement is used, or after 4 days when Type III cement is used. In cold weather, the length of time that forms and falsework are to remain in place shall be as approved.

Q. No superstructure load shall be placed upon finished concrete until the ENGINEER so directs, but the minimum time allowed for the curing of structural concrete in the substructure before any load of the superstructure is placed thereon shall be 7 days when Type I or Type II cement is used and 2 days when Type III cement is used.

PART 3 - EXECUTION

3.1 GENERAL

A. All concrete shall be placed before it has taken its initial set and, in any case, within 30 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.

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.

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.

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 COLUMNS

A. Concrete in columns shall be placed in one continuous operation unless otherwise permitted. The concrete shall be allowed to set a least 12 hours before caps are placed.

3.4 SLAB AND GIRDER SPANS

A. Slabs and girders having spans of 30 feet or less shall be cast in one continuous operation.

B. Girders spanning more than 30 feet may be cast in 2 operations, the first operation being the casting of the girder stems to the bottom of the slab haunches. Shear keys shall be provided for by inserting oiled timber blocks to a depth of at least 1-1/2 inches in the fresh concrete at the top of each girder stem. A sufficient number of blocks shall be used to cover uniformly about 1/2 the top surface of the girder stem and the blocks shall be removed as soon as the concrete has set sufficiently to retain their shape. The period between the first or girder casting and the second or slab casting shall be at least 24 hours. Immediately before the second casting, the CONTRACTOR shall check all falsework for shrinkage and settlement and shall tighten all wedges to insure minimum deflection of the stems due to the added weight of the slab.

3.5 SLABS ON STEEL BEAMS

A. A concrete slab on simple steel girder spans may be placed in not more than three sections with the first section centered on the span.

B. On truss spans or continuous girders, the concrete slab shall be placed as shown on the Plans or as directed by the ENGINEER.

3.6 CONCRETE DEPOSITED UNDER WATER

A. If conditions render it impossible or inadvisable in the opinion of the ENGINEER to dewater excavations before placing concrete, the CONTRACTOR shall deposit under water, by means of a tremie or pump, a seal course of concrete of sufficient thickness to thoroughly seal the cofferdam. The concrete shall be carefully placed in a compact mass and shall not be disturbed after being deposited. Still water shall be maintained at the point of deposit.

B. A tremie shall consist of a watertight tube having a diameter of not less than 10-inches with a hopper at the top. When a batch is dumped into the hopper, the flow of concrete shall be induced by slightly raising the discharge end, always keeping it in the deposited concrete.

C. Tremie tubes or pump discharge tubes used to deposit concrete under water shall be equipped with a device that will prevent water from entering the tube while charging the tube with concrete. Such tubes shall be supported so as to permit free movements of the discharge end over the entire top surface of the work and to permit rapid lowering, when necessary to retard or stop the flow of concrete. The tubes shall be filled by a method that will prevent washing of the concrete. The discharge end shall be completely submerged in concrete at all times and the tube shall contain sufficient concrete to prevent any water entry. The flow shall be continuous until the WORK is completed and the resulting concrete seal shall be monolithic and homogeneous.

D. The exact thickness of the seal will depend upon the hydrostatic head, bond and spacing of piles, size of cofferdam, and other related factors, but in no case shall the seal be less than 2 feet in thickness, unless otherwise shown on the plans. Before dewatering, the concrete in the seal shall be allowed to cure for not less than five days after placing, or until the seal concrete has achieved a minimum compressive strength of 2,500 p.s.i. based on test cylinders cured under the same conditions as the in situ concrete, whichever occurs first.

E. If a seal which is to withstand hydrostatic pressure is placed in water having a temperature below 45°F, the curing time before dewatering shall be increased as directed.

F. Periods of time during which the temperature of the water has been continuously below 38°F shall not be considered as curing time.

G. After sufficient time has elapsed to insure adequate strength in the concrete seal, the cofferdam shall be dewatered and the top of the concrete cleaned of all scum, laitance and sediment. Before fresh concrete is deposited, local high spots shall be removed as necessary to provide proper clearance for reinforcing steel.

3.7 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.

C. Immediately prior to placing new concrete the forms shall be drawn tight against the concrete already in place. Concrete in substructures shall be placed in such manner that all horizontal construction joints will be truly horizontal and, if possible, in locations such that they will not be exposed to view in the finished structure. Where vertical construction joints are necessary, reinforcing bars shall extend across the joint in such a manner as to make the structure monolithic. Special care shall be taken to avoid construction joints through large surfaces which are to be treated architecturally.

D. All construction joints shall be provided with concrete shear keys at least 1-1/2 inches deep and 1/3 of the concrete thickness in width, unless otherwise shown on the Plans.

3.8 EXPANSION JOINTS

A. Expansion 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, expansion joints shall be constructed with pre-molded expansion 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 expansion 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.

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. Expansion 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 expansion 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 expansion joints shall be that designated on the plans at normal temperature.

3.9 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.

3.10 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.

3.11 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.

3.12 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.

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.

3.13 RUBBED FINISH

A. When forms can be removed while the concrete is still green, the surface shall be pointed and wetted and then rubbed with a wooden float until all irregularities and form marks are removed and the surface is covered with a lather composed of cement and water. If permitted, a thin grout composed of one part cement and one part fine sand may be used in the rubbing. This lather shall be allowed to set for at least five days. The surface shall then be smoothed by being rubbed lightly with a fine Carborundum stone.

B. If the concrete has hardened before being rubbed, a medium coarse Carborundum stone shall be used to finish the surface. Such WORK shall not be done until at least 4 days after placing and it shall be done in the following manner. A thin grout composed of 1 part cement and 1 part fine sand shall be spread over a small area of the surface and rubbed immediately with the stone until all form marks and irregularities are removed and the surface is covered with a lather, after which the surface shall be finished as described above for green concrete.

C. The surface shall be smooth in texture and uniform in appearance. The building up of depressions will not be permitted.

D. If, through the use of first-class form materials and the exercise of special care, concrete surfaces are obtained that are satisfactory, the CONTRACTOR may be relieved entirely or in part from the requirement for rubbing.

3.14 CONCRETE DECKS

A. A smooth riding surface of uniform texture, true to the required grade and cross section, shall be obtained on all decks. The CONTRACTOR may use hand tools or finishing machines, or a combination of both, conforming to the requirements specified herein for finishing deck concrete.

C. The rate of placing concrete shall be limited to that which can be finished before the beginning of initial set.

D. After the concrete has been placed and consolidated, the surface of the concrete shall be carefully struck off by means of a hand operated strike board, operating on headers. A uniform deck surface true to the required grade and cross section shall be obtained.

E. Following strike off, the surface of the concrete shall be floated longitudinally. In the event strike off is performed by means of a hand operated strike board, two separate hand operated float boards for longitudinal floating shall be provided. The first float shall be placed in operation as soon as the condition of the concrete will permit and the second float shall be operated as far back of the first float as the workability of the concrete will permit.

F. Longitudinal floats, either hand operated or machine-operated, shall be used with the long axis of the float parallel to the centerline of the deck. The float shall be operated with a combined longitudinal and transverse motion planing off the high areas and floating the material removed into the low areas. Each pass of the float shall lap the previous pass by 1/2 the length of the float. Floating shall be continued until a smooth riding surface is obtained. The driving surface of the concrete shall have a heavy broom finish. Decks to have waterproof membranes shall be float finished.

G. Hand operated float boards shall be from 12 feet to 16 feet long, ribbed and trussed as necessary to provide a rigid float, and shall be equipped with adjustable handles at each end. The float shall be wood, not less than 1 inch thick and from 4-inches to 8-inches wide. Adjusting screws spaced at not to exceed 24-inches on centers shall be provided between the float and the rib. The float board shall be true and free of twist.

H. Immediately following completion of the deck finishing operations, the concrete in the deck shall be cured as specified in Article 3.15, Curing Concrete, of this Section.

I. The finished surface of the concrete shall be tested by means of a straightedge 10 feet long. The surface shall not vary more than 0.01 foot from the lower edge of the straightedge. All high areas in the hardened surface in excess of 0.01 foot as indicated by testing shall be removed by abrasive means. After grinding by abrasive means has been performed, the surface of the concrete shall not be smooth or polished. Ground areas shall be of uniform texture and shall present neat and approximately rectangular patterns.

3.15 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. These materials shall remain in place for the full curing period or they may be removed when the concrete has hardened sufficiently to prevent marring and the surface immediately covered with sand, earth, straw, or similar materials.

2. In either case the materials shall be kept thoroughly wet for the entire curing period. All other surfaces, if not protected by forms, shall be kept thoroughly

wet, either by sprinkling or by the use of wet burlap, cotton mats, or other suitable fabric, until the end of the curing period. 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.

B. Membrane Curing. 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.

3.16 BACKFILLING AND OPENING TO TRAFFIC

A. Unbalanced backfilling against concrete structures will not be permitted until the concrete has attained a compressive strength of not less than 75% of the ultimate strength (f ’c) shown on the Plans.

3.17 CONCRETE SAMPLING AND TESTING

A. The CONTRACTOR shall retain a qualified inspection and testing agency to sample and test concrete. Inspection shall be by an ACI Concrete Field Technician I or under the direction of a professional Civil Engineer registered in the State of Alaska. Testing shall be performed by an established lab under the direction of a professional Civil Engineer registered in the State of Alaska. The CONTRACTOR shall submit daily reports to Engineer on a weekly basis.

B. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.

3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.

5. Compression Test Specimens: ASTM C 31/C 31M.

a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.

a. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, CONTRACTOR shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.

8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

9. Test results shall be reported in writing to ENGINEER, concrete manufacturer, and CONTRACTOR within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by ENGINEER, but will not be used as sole basis for approval or rejection of concrete.

11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by ENGINEER. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by ENGINEER.

12. Additional testing and inspecting, at CONTRACTOR's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

C. Measure slab flatness and levelness within 24 hours of finishing.

3.18 CLEANING UP. Upon completion of the structure and before final acceptance, the CONTRACTOR shall remove all falsework. Falsework piling shall be removed or cut off at least 2 feet below the finished ground line.

END OF SECTION

SECTION 03302 – MINOR CONCRETE STRUCTURES

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 minor concrete structures, removal and disposal of the existing structure to be replaced by the proposed structure, and all backfill and grading, in accordance with these Specifications and in reasonably close conformity with the lines, grades, details, and locations shown on the Drawings or established by the ENGINEER.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland Cement shall conform to the requirements of AASHTO M 85.

B. Aggregate shall be clean, durable, uniformly graded sand and gravel, or crushed stone, 100 percent passing a 1 ½-inch sieve and containing not more than five percent passing a U.S. No. 200 sieve.

C. Air-entraining admixtures shall conform to the requirement of AASHTO M 154.

D. Water shall be obtained from the CBJ potable water system, unless otherwise permitted in writing by the ENGINEER.

E. Curing materials shall conform to the requirements of AASHTO M 182, AASHTO M 171, or AASHTO M 148, as appropriate, except that AASHTO M 148 is modified to prohibit the use of compounds utilizing linseed oil.

F. Reinforcing Steel shall conform to the requirements of AASHTO M 31.

G. Welded Wire Fabric shall conform to the requirements of AASHTO M 55.

H. Joint Fillers shall be of the type specified in the contract, and shall conform to the appropriate following requirements:

1. Poured filler - AASHTO M 173 or AASHTO M 282 as specified
2. Preformed filler - AASHTO M 213
3. Hot-poured sealant - ASTM D 3405
4. Hot-poured elastomeric type sealant - ASTM D 3406

2.2 COMPOSITION OF CONCRETE

A. Portland cement concrete will ordinarily be accepted on the basis of certification.

B. The concrete shall contain three to six percent of entrained air, as determined by AASHTO T 152. Concrete shall have a slump of not more than four inches as determined by AASHTO T 119.

C. Concrete shall contain not less than 611 pounds of cement and not more than 300 pounds of water per cubic yard.

D. The concrete shall develop a minimum compressive strength of 3,000 psi in 28 days.

E. The concrete shall be subject to acceptance or rejection by visual inspection at the job site. Re-tempering concrete will not be permitted.

F. The CONTRACTOR shall submit for approval the following:

1. The type and sources of aggregates and cement.
2. Scale weights of each aggregate proposed as pounds per cubic yard of concrete.
3. Quantity of water proposed as pounds per cubic yard of concrete.
4. Quantity of cement proposed as pounds per cubic yard of concrete.
5. Air content.
6. Slump.

G. When a commercial supplier is used, the CONTRACTOR shall furnish a certification with each truckload of concrete certifying that the material and mix proportions used are in conformance with the approved mixture.

H. Concrete complying with Section 03301 – Structural Concrete will be acceptable as an approved mixture with appropriate certification.

I. The ENGINEER may make and test cylinders for strength determinations.

2.3 FORMS

A. Forms shall be designed and constructed to be removed without injuring the concrete. They shall be free of bulge and warp, and constructed so the finished concrete will be of the form and dimensions shown on the Drawings, and true to line and grade. Forms for concrete containing a retarding admixture shall be designed for a lateral pressure equal to that exerted by a fluid weighing 150 pounds per cubic foot.

PART 3 - EXECUTION

3.1 PLACING CONCRETE

A. Concrete shall be placed to avoid segregation of materials and shall be consolidated with mechanical vibrators in accordance with Section 03301 – Structural Concrete.

B. When concrete is placed by the pumping method or by tremie operations, the use of aluminum pipe or conduit for transporting the concrete will not be permitted.

C. The intervals between delivery of batches for a single pour shall not exceed 30 minutes.

D. When placing concrete at or below an atmospheric temperature of 35°F. the CONTRACTOR shall comply with the applicable requirements of Section 03301 – Structural Concrete.

3.2 FINISHING CONCRETE SURFACES

A. All concrete surfaces shall be finished in accordance with the requirements of Section 03301 – Structural Concrete, except "Concrete International Corporation" Ashford formula shall be used as a curing compound.

3.3 CURING CONCRETE

A. All concrete will be cured a minimum of seven days, or, if high early strength cement is used, a minimum of three days. The concrete shall be cured in accordance with Section 03301 – Structural Concrete.

END OF SECTION

SECTION 03303 - SIDEWALK, CURB AND GUTTER

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 sidewalk, curb, and gutter as shown on the Drawings and CBJ Standard Details.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials for sidewalks, curb and gutter shall conform to the requirements of Section 03301 – Concrete Structures, except "Concrete International Corporation" Ashford Formula, or approved equal, shall be used instead of the specified curing materials.

B. Synthetic fibers may be substituted for rebar or wire mesh within curbs only upon approval of the ENGINEER

PART 3 - EXECUTION

3.1 METHODS OF CONSTRUCTION

A. Sidewalk, concrete slabs, curb and gutter, and valley gutter shall conform to the applicable requirements of Section 03301- Structural Concrete and as shown on the Drawings.

1. The curing compound shall be sprayed on the surface with a low-pressure sprayer 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.

B. All exposed or unprotected edges of sidewalks 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. Concrete curb and gutter, curb, and valley gutter shall be integral, one course construction, and molded in place on a gravel subgrade. The face forms of the integral curb and gutter shall be removed as soon as practicable. The top and inclined surface

shall then be worked with float or steel trowels to a gritty finish. Glazing, sprinkling of sand or cement, or blotting will not be permitted. Both front and back edges shall be tooled to a radius of one-half inch.

D. Use of monolithic curb and gutter machines will be permitted only on the written approval of the ENGINEER. Mortar may be added to the curb machine in a quantity approved by the ENGINEER.

E. Expansion joints shall be placed at 30-foot, maximum, intervals along all structures and about all features that project into, through, or against the concrete. An expansion joint shall be constructed at the intersection of sidewalks, between sidewalk crossings and sidewalks and at the beginning and end of curb returns. Expansion joints shall not be placed between the sidewalk and the curb.

F. Expansion joint material shall conform to the requirements of AASHTO M 213. This material shall extend the full width of the structure and shall be cut to such dimensions that the base of the expansion joint shall extend to the subgrade and the top shall be depressed not less than one-quarter inch nor more than one-half inch below the finished surface of the concrete. The material shall be one piece in the vertical dimension and shall be securely fastened to the existing concrete face against which fresh concrete is to be poured.

G. Transverse contraction joints, cut to a depth of one inch prior to the final set of the concrete, shall be tooled in the sidewalk at intervals approximately equal to the width of the sidewalk, and at ten-foot intervals in the curb and gutter. Where the sidewalk adjoins the curb (parallel to it), contraction joints in the sidewalk and curb shall be made to match where practicable.

H. The top and face of the finished curb shall be true and straight and the top surface of curbs shall be of uniform width, free from lumps, sags, or other irregularities. When a straightedge 10 feet long is laid on the top or face of the curb, or on the surface of gutters, the surface shall not vary more than 0.02 foot from the edge of the straightedge except at grade changes or curves. 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.

I. Sidewalks at driveway approaches shall have a minimum thickness of six (6) inches.

END OF SECTION

SECTION 03420 – PRECAST CONCRETE DECK PANELS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section shall include all labor, materials, tools and equipment necessary for fabrication, handling, transport and installation of all precast concrete deck panels, all miscellaneous appurtenances and associated hardware, and all other related WORK, in accordance with the requirements of the Contract Documents and Plans.

1.2 REFERENCES

A. ASTM (American Society of Testing Materials) Specifications

B. ACI (American Concrete Institute) Code

C. AWS (American Welding Society) D1.4 – Reinforcing Steel

D. ASTM A36/A36M - Structural Steel

E. ASTM A615 – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

F. ASTM A706 - Low Alloy Steel Deformed Bars for Concrete Reinforcement

G. ASTM A767 – Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement

H. ASTM C150 – Portland Cement

I. ASTM C33 – Concrete Aggregates

J. ASTM C494 – Chemical Admixtures for Concrete

K. ASTM C260 – Air Entraining Admixtures for Concrete

1.3 SUBMITTALS

A. Precast Concrete Deck Panel Fabrication Shop Drawings – Drawings shall include panel dimensions, size and location of all reinforcing steel, embedded anchors, bearing angle weldments, etc.

B. Reinforcement Fabrication Drawings

C. Certification for Galvanized Reinforcement and Structural Steel

D. Concrete Mix Design

E. Concrete Curing Procedure/Method(s) including any material product data and equipment used.

F. Concrete Sealer material product data.

G. Steel Fabrication Shop Drawings – Shop Drawings for all fabricated steel items per Section

05120 - Metal Fabrication.

H. Deck Panel Handling and Placement Plan – Submit plan detailing handling methods and procedures during fabrication, transport/shipping and placement of deck panels at the project site.

I. Quality Assurance Program – Submit quality control program that verifies all materials and workmanship incorporated into precast concrete members conform with the Specifications.

PART 2 - PRODUCTS

2.1 CONCRETE

A. Concrete mix design shall be approved by the ENGINEER prior to the manufacturing of any concrete deck panels. In addition, documentation shall be submitted showing a minimum of (3) previously successful precast concrete deck panel projects which utilized the proposed mix design. Previous projects submitted must reside in a cold weather, marine environment similar to this project. Documentation shall include copies of the originally submitted mix design and lab results for the corresponding projects, along with current names, addresses and contact numbers of the corresponding project owners.

B. Concrete shall be a standard weight portland cement concrete and additive composition, appropriately proportioned with admixtures for durability, cold weather and extreme exposure to a marine environment. Concrete mix design shall meet or exceed the following minimum requirements for strength and serviceability:

- Minimum 28-day compressive strength f'_c = 6,000 psi
- Minimum cement content = 7.0 sack per cubic yard
- Maximum water cement ratio = 0.40
- Air Entertainment = 4% to 7%
- A corrosion inhibiting admixture shall be used, conforming to ASTM C494 at the dosage recommended by the manufacturer.

C. Admixtures including water reducers, retarders, and accelerators, shall conform to ASTM C494. Air entraining mixtures shall conform to ASTM C260.

D. Aggregates shall conform to ASTM C33, with maximum aggregate size of 3/4 inch.

E. Cement shall conform to ASTM C150 Type II, or Type I or III with tri-calcium aluminate content below 8%. Water used for the mixing of concrete shall be potable and be free of foreign materials.

2.2 REINFORCING STEEL AND PRESTRESSING STRANDS

A. Reinforcing steel shall be new billet stock ASTM A615, Grade 60, galvanized in conformance with ASTM A767, unless otherwise noted.

B. All bent or welded reinforcing steel shall be new billet stock ASTM A706, Grade 60, galvanized in conformance with ASTM A767. Galvanizing shall be performed after fabrication.

C. All reinforcing bar welding shall conform to AWS D1.4.

D. Prestressing strands shall conform to ASTM A416, low-relaxation, 7-wire, Grade 270 with cross-sectional area of 0.153 in^2.

2.3 STRUCTURAL STEEL

A. All steel plate and miscellaneous shapes shall be ASTM A36, hot-dip galvanized per Section 05120 – Metal Fabrication.

PART 3 - EXECUTION

3.1 FABRICATION

A. Quality Assurance. The deck panel fabricator shall have an ongoing quality assurance program approved by a qualified, independent source. The deck panel fabricator shall submit a copy of their quality assurance program, and shall not cast any deck panels until the ENGINEER has approved it. The objectives of the quality assurance program are as follows:

1. To assure that completed products conform to all governing codes and specifications stipulated in the contract documents including the Plans.
2. To assure the quality is an integral part of the ongoing manufacturing activities of the deck panel manufacturer.
3. To assure that properly trained and certified personnel are used to perform the Work.
4. To assure that proper materials testing, layout, fabrication and assembly procedures are followed in the production of final products.

Although the ENGINEER or OWNER may carry out periodic inspections, the purpose of those inspections is to note general conformance to the design documents. It is the responsibility of the deck panel fabricator to produce a high-quality product, in complete conformance with the contract documents, and to document and correct any non-conformance issues. All documentation shall be submitted to the ENGINEER and shall be kept on file by the deck panel fabricator for periodic review by the OWNER or ENGINEER.

B. Fabrication Facility. The fabrication facility shall provide the proper environment and physical conditions necessary for high quality concrete deck panel casting. The facility shall provide adequate workspace, equipment, level casting surfaces, and protections from direct sunlight, wind, moisture and freezing. The fabricator shall have the capability to carry out the following work in-house or on a contract basis:

1. Design of lifting and erection devices not shown on the drawings
2. Preparation of shop fabrication drawings
3. Receiving, checking and storing of materials for the deck panels
4. Layout, form set-up, and reinforcing steel placement
5. Mix designs, placing and curing of concrete
6. Sampling, testing, and breaking concrete test cylinders

7. Dimensional checking and verification
8. Resolution of non-conformities
9. Documentation of all stages of work with capability of tracing all major components
10. Proper finishing and curing methods
11. Patching, storing, handling and shipping

C. Quality Control Concrete Testing by Deck Panel Fabricator

1. The deck panel fabricator shall provide quality control testing of all concrete incorporated into the WORK. All concrete testing methods shall be in accordance with the respective ASTM specifications. Testing shall be accomplished under the guidance of personnel certified under American Concrete Institute guidelines. An independent test lab shall perform all quality control testing for the deck panel fabricator unless the deck panel fabricator has certified testing personnel in-house that are qualified to perform the WORK. In the event that in-house personnel are proposed, then independent quality assurance testing shall be provided on a minimum of 10% of the required testing frequency.

2. Four (4) compressive test cylinders shall be taken in accordance with ASTM C-39 for each ½ day's production. Cylinders shall be cured and tested by an approved and certified testing laboratory. Cylinders shall be tested as follows: one (1) at release from forms; one (1) at seven (7) days; and two (2) at twenty-eight (28) days.

3. Entrained air tests shall be taken from the same material samples used for the compressive test cylinders in accordance with ASTM C-173 C-231.

4. Unit weight tests shall be performed per ASTM C-138 at least every other day.

5. Daily concrete cylinder test reports shall be submitted to the ENGINEER.

6. The deck panel fabricator shall provide all quality control concrete testing at no additional cost to the OWNER.

7. The deck panel fabricator shall notify the independent test lab a minimum sufficiently prior to the casting of concrete for the proper scheduling of concrete testing.

D. Concrete Forms.

1. Deck panels shall be cast in forms having a smooth, true surface.

2. Forms shall not cause unsightly finish surfaces or defined lines that could result in crack planes. Any rough edges, form marks, or other visible surface defects shall be cleaned, ground smooth, or patched. Any damage as a result of form removal shall be repaired by a procedure that has been pre-approved by the ENGINEER..

3. Forms shall have a tolerance of not more than 1/8-inch from the dimensions shown on the approved Shop Drawings.

4. Concrete shall be vibrated internally and/or externally to ensure a smooth, dense finish. Placement of concrete shall be such that each deck panel is monolithic, with no cold joints, in any part of the finished deck panel.

5. Concrete shall remain within forms until it has achieved a minimum compressive strength of 4,000 psi and as additionally required to be properly handled without damage.

E. Dimensional Tolerances. Precast concrete deck panels shall conform to the following dimensional tolerances:

1. Panel Length: +/- 1/8" max.
2. Panel Width: + 1/8" - 0"
3. Panel Depth: +/- 1/16" max.
4. Panel Sweep: +/- 1/8" max.
5. Top and bottom panel surfaces shall be parallel, subject to item 6 below.
6. With panel on flat, level surface, elevation of any panel corner shall not vary more than 1/16" from any other panel corner.

F. Finish: Deck panel top surfaces shall have a wire broom finish, applied along length of panel. The deck panel fabricator shall establish finishing methods and procedures to ensure an even and consistent, broomed finish is achieved on all deck panel surfaces. The deck panel fabricator shall use extreme care and qualified craftsmen during finishing operations to prevent over working of the surface or other such actions detrimental to the air void system and long-term durability of the concrete.

G. Surface Defects: Mix design, placement and curing procedures shall be such that cracking of concrete is minimal in number and size so as to avoid repairs. Cracks that exceed 0.01 inches in width shall be repaired by a procedure pre-approved by the ENGINEER. Rock pockets and/or honeycombing exceeding 1" in diameter and/or 3/8" deep shall be patched with an approved non-shrink grout of a color similar to cured concrete. Any pockets that expose the reinforcing steel shall be chipped out, cleaned and filled with an approved epoxy patching compound per the manufacturer's recommendations. Damage due to form removal, handling and/or transport shall be repaired with pre-approved procedure/products and documented with photos and report. The ENGINEER may entirely reject deck panels that exhibit more severe surface defects and/or damage.

H. All precast concrete deck panels shall have a sealer applied prior to shipping. Sealer shall be a 100% silane/siloxane sealer and shall be applied per manufacturer's recommendations.

I. All edges of precast concrete that will be in contact with field installed grout or cast-in-place concrete shall be aggressively sandblasted prior to delivery to the project.

J. Curing, Handling and Storage.

1. Except as otherwise approved, deck panels shall be allowed to cure for a minimum of seven (7) days before transporting, provided that ambient air temperatures between the plant and the project site remain above 35°F. Otherwise, deck panels shall be cured for a minimum of 28 days before shipping.

2. The deck panel fabricator shall select the method of initial curing, and shall be responsible for the result. The method shall include being under cover, with suitable protection from direct sunlight, wind and temperature and in accordance with ACI standards.

3. The deck panel fabricator shall establish handling methods to avoid damage to deck panels during form removal, storage, assembly and installation.

4. The storage of deck panels shall be on level surfaces. It shall be the responsibility of the deck panel fabricator to determine how high units may be stacked to avoid damage by over stacking.

5. Deck panels delivered and stored at either the deck panel fabricator's facility, staging area, or job site, shall be properly stored on suitable dunnage and protected by appropriate means to prevent direct contact with the ground and other individual deck panels.

6. Deck panels shall be protected as necessary against damage, from any cause during curing, handling, storage, shipping, transport and delivery.

3.2 TRANSPORT AND DELIVERY

A. The CONTRACTOR shall assume full responsibility for any damages or losses resulting from the handling or transporting of deck panels during loading, shipping, transport and delivery to the project site as well as the subsequent handling required on site for installation.

B. Any deck panel damaged during transport and delivery and/or during other handling operations prior to final acceptance shall be repaired or replaced by the CONTRACTOR at the discretion of the ENGINEER and at no additional cost to the OWNER.

3.3 INSTALLATION

A. All deck panels shall be installed as shown on the Plans or to the highest industry standards if not fully shown on the Plans.

B. Prior to grout or cast-in-place concrete placement, sandblasted edges of precast concrete deck panels shall be cleaned of free dust and dirt using high pressure potable water. Proper preparation of sandblasted edges shall be verified with H2SO4 indicator to assure complete removal of all carbonated substrate.

C. CONTRACTOR shall shim precast deck panels as required in the field to achieve a uniform top deck surface prior to leveling grout placement. UHMW shims or ENGINEER approved alternative shall be used of varying thickness as required. When in final position, the elevations of adjacent panel edges shall not vary from one another by more than 1/16". Panel joint grout shall not be installed until the panel placement has been inspected and accepted by the ENGINEER.

END OF SECTION

SECTION 03601 – CAST-IN-PLACE CONCRETE AND GROUT

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK under this Section shall include all labor, materials, tools and equipment necessary for the construction and installation of complete, cast-in-place concrete walls, cast-in-place light pole base, cast-in-place deck, cast-in-place closures, deck panel grout joints, all miscellaneous appurtenances and associated hardware, and all other related WORK in accordance with the requirements of the Contract Documents and as shown on the Plans.

1.2 REFERENCES

A. ASTM (American Society of Testing Materials) Specifications

B. ACI (American Concrete Institute) Code

C. AWS (American Welding Society) D1.4 – Reinforcing Steel

D. ASTM A615 – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

E. ASTM A706 - Low Alloy Steel Deformed Bars for Concrete Reinforcement

F. ASTM A767 – Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement

G. ASTM C150 – Portland Cement

H. ASTM C33 – Concrete Aggregates

I. ACI 301 – Structural Concrete for Buildings

J. ACI 304 – Recommended Practice for Measuring, Mixing Transporting and Placing Concrete

K. ACI 306R – Cold-Weather Concreting

L. ACI 308 – Standard Practice for Curing Concrete

M. ACI 309 – Standard Practice for Consolidation of Concrete

N. ACI 318 – Building Code Requirements for Reinforced Concrete

O. ACI 347 – Recommended Practice for Concrete Formwork

1.3 SUBMITTALS

A. Concrete Mix Design – for all concrete components.

B. Reinforcement Fabrication Drawings.

C. Galvanizing Certification for Reinforcement.

D. Deck Panel Grout

E. Concrete Joint Sealant

F. Curing Compound

G. Structural Steel submittals per Section 05120 – Metal Fabrication

H. Skate Stops. Submit product specific material specifications and installation instructions from manufacturer.

I. Steel Decking - Including shop drawings, product information and material certifications.

1.4 QUALITY ASSURANCE

A. Perform WORK in accordance with applicable ACI requirements.

B. Acquire cement and aggregate from the same source for all WORK.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Concrete shall conform to the following requirements:

- Minimum 28-day compressive strength f'_c = 6,000 psi
- Minimum cement content = 7.5 sacks per cubic yard
- Maximum water cement ratio = 0.40
- Air Entrainment = 4% to 7%
- Cement shall conform to ASTM C150 Type II, or Type I or III with tri-calcium aluminate content below 8%.
- Aggregate shall conform to ASTM C33 with maximum size of 3/4 inch.
- Water shall be potable, and free from amounts of oil, acid, alkali, and organic materials detrimental to the concrete.

B. Reinforcing steel shall be new billet stock ASTM A615, Grade 60. Bent or welded bars shall be ASTM A706, Grade 60. All reinforcing steel shall be galvanized in accordance with ASTM A767. Galvanizing shall be performed after fabrication.

C. Miscellaneous structural steel shall be ASTM A36, hot-dip galvanized and conform to Section 05120 – Metal Fabrication.

D. Shear studs shall be per Section 05120 – Metal Fabrication.

E. All other miscellaneous materials shall conform to Section 03301 – Structural Concrete.

F. Cast-in-place grout and/or cast-in-place concrete shall be used in all deck panel grout joints between precast concrete deck panels and panel closures as indicated on the plans. Grout shall be “BASF SET 45” or Euclid’s “Eucospeed MP” or approved equal, and shall be placed per manufacturer’s recommendations. Deck panel grout joint edges shall have a sandblasted surface, and be clean and dust-free, leaving a non-carbonated substrate. Mix

grout with manufacturer's recommended water quantity. Do not add additional water. Grout may be extended by adding up to 30 pounds of clean pea gravel per 50-pound bag of grout. Sample pea gravel shall be sent to grout manufacturer's lab for inspection and approval prior to use on the project.

G. Deck panel grout joint edges shall be aggressively sandblasted prior to deck panel delivery to the project. Prior to placement of grout, clean sandblasted surface free of dust and dirt using high-pressure potable water. Check adequacy of preparation with H2S04 indicator to assure complete removal of carbonated substrate prior to grouting.

H. Concrete deck joint sealant shall be "*Chem Link M-1*" or approved equal.

I. "Concrete International Corporation" Ashford Formula, or approved equal, shall be used for curing compound.

J. Steel Decking shall be "Deep Vector 36 (DV-36)" as manufactured by the *Verco Decking Company*. Decking shall have a minimum thickness of 0.0374 (20 Gauge) and shall be manufactured to ASTM A653 with a G90 coating.

K. Welded Wire Fabric shall be manufactured in accordance ASTM A185 in the size and spacing noted in the plans. Welded Wire Fabric shall be hot dip galvanized in accordance with ASTM A1060.

L. Skate Stops shall be case aluminum, "Base Series – Compass Rose – Base 90" w/ "Smart Pin Plus" anchors and manufacturer recommended epoxy, as manufactured by Skate Stoppers @ www.skatestoppers.com of El Cajon, CA – phone: 619-447-6396.

2.2 FORMWORK

A. Forms shall be designed and constructed to be removed without injuring the adjacent and/or placed concrete. They shall be free of bulge and warp, and constructed so the finished concrete will be of the form and dimensions shown on the Plans, and true to line and grade. Forms for concrete containing a retarding admixture shall be designed for a lateral pressure equal to that exerted by a fluid weighing 150 pounds per cubic foot

PART 3 – EXECUTION

3.1 INSTALLATION

A. Concrete components shall be constructed as shown on the Plans and in accordance with ACI and AISC standards. Provide medium transverse broom finish (perpendicular to traffic) on all horizontal walking surfaces. Provide rubbed finish on all exposed vertical and non-walking horizontal surfaces.

B. CONTRACTOR is responsible to ensure that all necessary means and methods are properly designed, constructed and maintained for the loads they are intended to support and the work they are intended to accomplish.

C. Defective concrete shall be removed and replaced at no additional cost to the OWNER.

D. Prior to placement of grout, clean surfaces to be grouted using high-pressure potable water.

E. Avoid allowing air pockets to form while placing grout. Clean all spilled grout from deck surface immediately. Always flow grout in one direction while filling the deck panel grout joints. Vacuum remove standing water encountered while grouting.

F. Do not use nails or other penetrating fasteners to attach forms to precast concrete deck panels.

G. Concrete deck joint sealant shall be installed/applied in strict conformance with manufacturer's instructions for joint configuration, surface preparation, temperature, etc.

H. All concrete execution requirements shall comply with Section 03301 Structural Concrete.

I. Construction methods and products not specifically mentioned in these Contract Documents shall be utilized using reasonable care and the highest quality construction practices. Final inspection and acceptance of all WORK and products not specifically mentioned in these Contract Documents shall be made by the ENGINEER. Approval shall be based upon conformance to the Contract Documents, quality of workmanship, applicable industry standards, and pertinent manufacturer's recommendations.

3.2 C.I.P. CONCRETE CURING

A. "Concrete International Corporation" Ashford Formula™, or approved equal, shall be used as a curing compound.

B. The curing compound shall be sprayed on the surface with a low-pressure sprayer immediately following the finishing operation.

C. 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.

D. 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.

E. 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.

END OF SECTION

SECTION 05120 – METAL FABRICATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK in this Section shall include all labor, materials, tools and equipment necessary for fabrication, handling, transport and installation of all structural steel and aluminum items in accordance with the requirements of the Contract Documents and as shown on the Plans.

1.2 REFERENCES

A. AISC (American Institute of Steel Construction) Code of Standard Practice - Manual of Steel Construction - Allowable Stress Design (ASD).

B. ASTM (American Society of Testing Materials) Specifications

C. ASTM A36/A36M - Structural Steel.

D. ASTM A6 – General Requirements for Rolled Steel Plates, Shapes, Sheet piling, and Bars for Structural Use.

E. ASTM A108 – Steel Bars, Carbon Cold-Finished, Standard Quality.

F. ASTM A123 - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.

G. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel Hardware.

H. ASTM A325 - High Strength Bolts for Structural Steel Joints.

I. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.

J. ASTM A53 – Steel Pipe.

K. ASTM F593 – Stainless Steel Bolts, Hex Cap Screws, and Studs.

L. ASTM F594 – Stainless Steel Nuts.

M. AWS D1.1 - Structural Welding Code - Steel.

N. The Aluminum Association – Aluminum Design Manual: Specifications and Guidelines for Aluminum Structures.

O. ASTM B209 – Standard Specifications for Aluminum and Aluminum-Alloy Sheet and Plate.

P. ASTM B210 – Standard Specifications for Aluminum and Aluminum-Alloy Drawn Seamless Tube.

Q. ASTM B221 – Standard Specifications for Aluminum and Aluminum-Alloy Bar, Rod, Wire, Profiles and Tubes.

R. ASTM B241 – Standard Specifications for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Tube.

S. ASTM B308 – Standard Specifications for Aluminum and Aluminum-Alloy 6061-T6 Standard Structural Profiles.

T. AWS D1.2 - Structural Welding Code - Aluminum.

1.3 SUBMITTALS

A. Fabrication Shop Drawings of all fabricated steel and aluminum items prior to fabrication.

1. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length and type of each weld.
2. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
3. Indicate type, size and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tension, or tensioned shear/bearing connections.

B. Manufacturer's Mill Certificate: Steel certification for all steel used shall include chemistry, yield strength, and mill numbers.

C. Galvanizing Certifications

D. Galvanizing Repair Method and Materials

E. Welding Procedures

F. Welders Certificates: Certify welders employed in the work, verifying AWS qualification.

G. Product data, samples, preparation, application, QA/QC Plan, and field repair of metal coatings per Section 09000 – Coatings.

H. Provide fabrication shop QA/QC Plan for review by ENGINEER. Provide qualification data for firms and/or persons to demonstrate their capabilities and experience. Include lists of projects with project names and addresses, and names and addresses of engineers, architects and owners.

1.4 QUALITY ASSURANCE

A. Fabricate and install structural steel in accordance with AISC Code of Standard Practice.

B. Fabricate and install aluminum in accordance with Aluminum Association Aluminum Design Manual.

C. Quality Assurance. The metal fabricator must have an ongoing quality assurance program approved by a qualified, independent source. At the option of the ENGINEER, the fabricator shall submit a copy of their operational quality assurance program, and

shall not begin fabrication until the ENGINEER has approved this quality assurance program. The objectives of the quality assurance program are as follows:

1. Completed products shall conform completely to all governing codes and specifications stipulated in the Design Contract Documents, and Plans.

2. Quality Assurance Program is an integral part of the ongoing manufacturing activities of the Fabricator.

Although periodic inspections will be carried out by the ENGINEER, the purpose of these inspections is to note general conformance to the design documents. It is still the responsibility of the fabricator to produce a quality product, in complete conformance with the design documents, and to document and correct any non-conformance. All documentation, including that submitted, shall be kept on file by the fabricator, for review, if requested by the OWNER or ENGINEER.

D. Fabrication Facility. The fabrication facility shall provide the proper environment and physical conditions necessary for welding, cutting, and general metal fabrication. The facility shall provide adequate work space, equipment, level surfaces, and protection from wind, moisture and freezing. The fabricator shall have the capability to carry out the following work in-house or on a contract basis:

- Design of lifting and erection devices not shown on the drawings.
- Preparation of shop fabrication drawings.
- Receiving, checking and storing of materials for metal fabrication.
- Dimensional checking and verification.
- Resolution of non-conformities.
- Documentation of all stages of work with capability of tracing all major components.
- Finishing, repairing, storing and shipping.

E. Fabricator Qualifications: Engage a firm experienced in fabricating structural steel similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the WORK. Shop welding procedures and qualifications shall be submitted for review by the ENGINEER.

F. Welding Standards: Comply with applicable provisions of AWS D1.1 Structural Welding Code - Steel, current edition, and AWS D1.2 Structural Welding Code – Aluminum, current edition.

1. Present evidence that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.

2. Submit welding procedures in accordance with AWS Structural Welding Codes.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to Fabricator’s shop in such quantities and at such times to ensure continuity of installation.

B. Store materials to permit easy access for inspection and identification. Materials shall be protected during shipping and handling. Materials shall be stored above ground on

pallets, platforms or other supports. Materials shall be kept clean and properly drained. Girders and beams shall be placed upright and shored. Long members shall be adequately supported on skids to prevent damage from deflection.

C. Store fasteners in a protected place. Clean and re-lubricate bolts and nuts that become dry or rusty before use.

D. Do not store materials or assembled structures in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.1 MATERIALS - All materials for metal fabrication shall conform to the Contract Documents and as shown on the Plans. Purchase orders shall contain all necessary information to verify that materials purchased comply with the fore mentioned documents. The Fabricator shall inspect all materials, upon arrival, for conformance with the purchase orders. The Fabricator shall confirm that mill certificates and test reports are provided and that they correctly identify the materials delivered. If a supplier proposes a substitute for any material, the proposed substitution shall be submitted to the ENGINEER for approval prior to commencing any WORK involving use of the proposed substitute material. Supplier must be prepared to supply materials as identified on the design documents if the proposal for a substitution is not approved by the ENGINEER.

A. All miscellaneous steel shapes and plate steel shall be ASTM A36, hot-dip galvanized, unless otherwise noted.

B. Square and rectangular HSS shall be ASTM A500, Grade B, hot-dip galvanized, unless otherwise noted.

C. Pipe less than 12-inch diameter shall be ASTM A53, Grade B, Type E or S, hot-dip galvanized, unless otherwise noted. Pipe greater than 12-inch diameter shall conform to Section 02896 - Steel Pipe Piles.

D. Bolts and Miscellaneous Hardware: Unless otherwise noted, all bolts shall be ASTM A307, hot-dip galvanized. Washers are required under both the head and nut of all bolts, unless otherwise noted. All nuts and washers shall be hot-dip galvanized. Plate washers, with a diameter equivalent to a malleable iron washer, shall be used in all areas where the bolt head or nut bear against wood, except under economy head bolts. All bolts called out as ASTM A325 shall be hot-dip galvanized. A325 bolts shall be installed per AISC turn-of-nut method, or other ENGINEER approved method, unless otherwise indicated on the Plans.

All bolts, nuts, washers, screws, and miscellaneous hardware called out as Stainless Steel shall be Type 316 Stainless Steel conforming to ASTM F593 and F594 as applicable.

All nails shall be hot-dip galvanized.

E. Aluminum shall conform to 6061-T6, unless otherwise noted. Aluminum pipe and round bar shall be 6063-T6.

2.2 METAL COATINGS

A. Unless otherwise noted, all steel shall be hot-dip galvanized in accordance with ASTM A123 or A153 as appropriate.

B. All other metal coatings shall be per Section 09900 – Coatings.

PART 3 - EXECUTION

3.1 METAL FABRICATION

A. Shop Inspection: The CONTRACTOR shall furnish the ENGINEER with 30 days notice of the beginning of WORK at the mill or in the shop so that special fabrication inspections may be scheduled by the ENGINEER.

B. Fabricate and assemble components in a shop, to greatest extent possible. Workmanship and finish shall be equal to the best industry standards and in accordance with the requirements of AWS, AISC, and The Aluminum Association, as applicable.

1. Mark and match-mark materials for field assembly.
2. Materials shall be sourced with matching heat numbers and/or from the same mill runs as necessary for fabricated project elements that require consistent, critical dimensions and fit-up in order to function as intended by design.
3. Fabricate for delivery in a sequence that will expedite erection and minimize field handling.
4. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
5. Holes: Drill holes perpendicular to metal surfaces; do not flame-cut holes or enlarge holes by burning.
6. Aluminum Fabrication: Edges shall be cut true, smooth and free of burrs. Flame cutting is not permitted. Corner edges shall be ground smooth. Holes shall be drilled or punched. Weld spatter and flash marks shall be removed and ground smooth. Mill stamps and markings shall be removed from all exposed surfaces.

C. Structural material, either plain or fabricated, shall be stored at the fabricating shop above ground, on platforms, skids or other supports. It shall be kept free from dirt, grease or other foreign matter, and shall be protected, as far as practical, from corrosion.

D. All holes required for steel hot-dip galvanizing shall be clearly identified on the Shop Fabrication Drawings for ENGINEER review and approval. Fabricator shall coordinate with Galvanizer to determine size and quantity of holes required. Some, or all of the holes, may be required to be fully repaired per AWS D 1.1, at the discretion of the ENGINEER.

3.2 METAL ERECTION

A. General: The CONTRACTOR shall provide and later remove all falsework, temporary shoring, and bracing necessary for erection and to complete assembly. All such devices

shall be properly designed and constructed by the CONTRACTOR to meet anticipated construction and handling loads.

B. Handling and Storing of Materials: Material to be stored shall be placed on skids above the ground. It shall be kept clean and properly drained. Girders and beams shall be placed upright and shored. Handling and erection procedures shall be conducted in a manner to avoid over stressing any structural element. Stress and deflection calculations shall be provided by the CONTRACTOR, as deemed necessary by the ENGINEER, for any erection procedure.

C. Method and Equipment: Before starting the WORK of erection, the CONTRACTOR shall inform the ENGINEER fully as to the method of erection proposed, and the amount and character of equipment proposed to be used. Approval by the ENGINEER shall not be considered as relieving the CONTRACTOR of the responsibility for the safety of his method and equipment, or from carrying out the WORK in full accordance with the Plans and Specifications.

D. Assembling: Metal parts shall be accurately assembled as shown on the Plans, following applicable Industry Standards, Codes, erection drawings and fabricators' match-marks. Excessive force or manipulation of parts shall not be allowed as determined by the ENGINEER. The material shall be carefully handled so that no parts will be bent, broken, or otherwise damaged. Hammering, which will injure or distort the members will not be permitted. Bearing surfaces shall be cleaned before the members are assembled.

E. Bolt Holes and Bolting: Bolt holes and bolting shall follow the requirements as stated on the Plans and as indicated by applicable Industry Standards and Codes. Any steel to steel connections noted to be considered "slip-critical" shall be installed by the "turn-of-nut" tightening method per AISC. In addition to the requirements of AISC, bolting of slip-critical joints shall proceed in the following manner:

1. The joint shall be fitted up and aligned with drift pins.
2. Sufficient force shall be applied so as to bring the faying surfaces of steel into close contact. If high strength bolts are used for this purpose (i.e. used to pull steel into position), they shall be clearly marked for identification, and not used in the final connection.
3. High strength bolts shall be installed and brought up to snug-tight condition, such as can be produced by a few blows of an impact wrench, or by an ordinary spud wrench.
4. High strength bolts shall then be tightened by turn-of-nut method, progressing from the most rigid part of the joint toward the free edges.
5. Bolts used to pull steel into position (mentioned above) shall then be removed, replaced with high strength bolts, and tightened as described above.
6. The impact wrench used for bolt tightening shall be of adequate capacity so as to provide the required tightening in approximately 10 seconds.
7. Bolt lengths shall be such that 0" to ¼" of the bolt shall extend past the end of the nut after tightening.

F. Welding: All welding shall be in accordance with AWS D1.1 or AWS D1.2, current edition, as applicable. All welders shall be qualified per AWS for the type of welding anticipated. Welds will be spot tested by the ENGINEER by VT, MT, or UT and any welds which fail shall be repaired at the CONTRACTOR's expense, which will also include all costs for retesting. No welding through galvanized coatings will be permitted. The galvanizing within one inch of the weld shall be removed and repaired, after welding, according to these Specifications. All weld filler metal shall have chemistry similar to the base metal and shall have a minimum Charpy Impact Test Value of 20 ft-lbs. at –20 degrees F and have chemistry similar to the base metal. Filler metals shall only be used in welding positions recommended by the manufacturer. Welding materials shall be stored, and the condition maintained, according to AWS.

G. Galvanize Repair: Galvanized coatings damaged due to fabrication, welding, material handling or occurring during installation shall be repaired per Section 09900 – Coatings, Sub-Section 3.2.

H. Thermal Spray Metalizing (TSM) Repair: TSM coatings damaged due to fabrication, welding, material handling or occurring during installation shall be repaired per Section 09900 – Coatings, Sub-Section 3.2.

END OF SECTION

SECTION 09900 - COATINGS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The WORK in this section shall include all labor, materials, tools and equipment necessary for handling, transport, surface preparation and application of all metal coatings, and all other miscellaneous associated work, in accordance with the requirements of the Contract Documents and as shown on the Plans.

1.2 REFERENCES

A. ASTM (American Society of Testing Materials) Specifications

B. ASTM A123 - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.

C. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel Hardware.

D. SSPC (Steel Structures Painting Council) - Steel Structures Painting Manual.

E. SSPC Guide No. 23 for Thermal Spray Metallic Coating.

1.3 SUBMITTALS

A. Product Data: Provide product data and/or technical specifications including manufacturer's instructions for surface preparation, required environmental conditions, etc., for all metal coating products.

B. Samples: Submit (2) samples demonstrating color and texture for each proposed metal coating product.

C. Coating Repair Methods and Materials: CONTRACTOR'S proposed repair methods, procedures and materials for all metal coatings damaged as a result of shipping, handling, welding or by other means.

D. CONTRACTOR shall submit a Quality Plan for preparation and application of all metal coatings. Quality Plan shall address solvent cleaning, blasting, surface profile standards, stripe coat and primer coat application, finish coat applications, coating thickness measurement and documentation, adhesion pull test procedures, independent inspection and documentation, as well as handling and transport methods.

1.4 QUALIFICATIONS

A. Thermal sprayed and painted coatings shall be applied by an experienced firm that has knowledge, procedures and equipment necessary to provide surface preparation and application of complex protective coating systems. Thermal sprayed and painted coatings shall be applied by a firm possessing AISC certification for Shop Application of Complex Protective Coating Systems (SPE) P1 and/or SSPC-QP 3.

PART 2 - PRODUCTS

2.1 GALVANIZING

A. Hot-dipped galvanizing shall be per ASTM A123 or A153, as appropriate.

2.2 THERMAL SPRAY METALLIC COATING

A. Shall conform to SSPC Guide No. 23.

B. Thermal Spray Metallic Coating shall be 85%zinc/15% aluminum applied to a minimum dry coating thickness of 15 mils, and shall be top coated with clear sealer PRO-LINE 4800/4801 PROTHANE H.S. as manufactured by *Sherwin-Williams*, or approved equal, to a dry film thickness (DFT) of 2-3 mils.

2.3 NON-SKID COATING

A. Metal surfaces designated to have Non-Skid coating shall be initially thermal arc-sprayed with zinc only to a minimum dry coating thickness of 6 mils, followed by a thermal arc-sprayed top coat of TH 605, as manufactured by *Thermion*, or an approved equivalent product, to achieve an aggressive surface profile. Approved Non-skid coating shall be applied to a minimum dry coating thickness of 12 mils, and shall be top coated with clear sealer PRO-LINE 4800/4801 PROTHANE H.S. as manufactured by *Sherwin-Williams*, or approved equal, to a dry film thickness (DFT) of 2-3 mils. Surface prep and Non-Skid coating application shall be conducted as recommended by *Thermion,* or other approved manufacturer. Fabricator shall coordinate with manufacturer prior to Non-Skid coating application, and submit surface prep and application procedures for ENGINEER approval. Samples of Non-Skid coating must be submitted to ENGINEER and approved by the ENGINEER prior to commencing with Non-Skid coating application.

PART 3 - EXECUTION

3.1 PREPARATION AND APPLICATION

A. Galvanizing shall be performed after fabrication, and all holes required for galvanizing shall be repaired per AWS D1.1, and in accordance with Sub-Section 3.2, unless otherwise approved by the ENGINEER.

B. Preparation and application of Thermal Spray Metallic Coatings shall conform to SSPC Guide No. 23, to the minimum dry film coating thickness specified in these specifications. Thermal Spray Metallic Coating damaged from shipping, handling, welding or by other means shall be repaired in accordance with SSPC Guide No. 23, Section 8.7.

C. Metal surfaces specified to be Non-Skid shall be prepared per coating manufacturer's recommendations and submitted Quality Plan.

D. Surface preparation will be monitored and dry film thickness testing will be performed by OWNER representative to ensure adequate coating application. If coating thickness is insufficient, the Fabricator is responsible for and shall be prepared to apply more layers as

necessary to obtain the required minimum thickness specified in the Contract Documents.

3.2 COATING REPAIRS

A. CONTRACTOR shall submit metal coating repair methods and procedures for review and approval by the ENGINEER, prior to fabrication or mobilization of any equipment and materials.

B. Galvanize Repair: Galvanized coatings damaged due to fabrication, welding, material handling or occurring during installation shall be repaired by using the following hot-applied repair stick method:

1. Repair sticks shall be zinc-cadmium alloys (melting point 518° - 527°F) such as "Rev-Galv", or zinc-tin-lead alloys (melting point 446° - 600°F) such as "Galv-Weld", "Zilt", and "Galv-over". The zinc-tin -lead alloys shall comply with U.S. Federal Specification O-G-93 and contain fluxing agents.
2. Remove welding slag by chipping hammer and clean weld or damaged area by vigorous wire brushing.
3. Preheat the region to be repaired by means of an oxyacetylene torch or other convenient method to between 600°F and 750°F. The alloys do not spread well at temperatures lower than 600°F. Also as temperatures rise above 600°F increasing amounts of dross form.
4. Wire brush surface again.
5. Apply coating by rubbing bar of the alloy over the heated surface while it is hot enough to melt the alloy.
6. Spread the molten alloy by briskly wire brushing or rubbing with a flat edge strip of steel or palette knife. Minimum thickness of applied zinc stick material shall be 12 mils.
7. Remove flux residues by wiping with a damp cloth or rinsing with water.
8. Brush apply two top coats of zinc rich paint, ZRC or equal (cold galvanize repair).

C. Thermal Spray Metalizing (TSM) Repair: Thermal Spray Metallic Coating damaged due to fabrication, welding, material handling or occurring during installation shall be repaired in accordance with SSPC Guide No. 23, Section 8.7.

END OF SECTION

SECTION 16060 - GROUNDING AND BONDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes grounding and bonding systems and equipment.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 CONDUCTORS

A. Insulated Conductors: Copper or tinned-copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

2.3 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Bolted Connectors for Conductors: Copper or copper alloy.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install stranded conductor unless otherwise indicated.

B. Conductor Terminations and Connections:

1. Equipment Grounding Conductor Terminations: Bolted connectors.

3.2 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

3.3 INSTALLATION

A. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.

END OF SECTION 16060

SECTION 16073 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Hangers and supports for electrical equipment and systems.

1.3 DEFINITIONS

A. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.

B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.

C. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.5 ACTION SUBMITTALS

A. Product Data: For the following:

1. Steel slotted support systems.

1.6 QUALITY ASSURANCE

A. Comply with NFPA 70.

1.7 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified together with concrete Specifications.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
2. Channel Dimensions: Selected for applicable load criteria.

B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.

C. Conduit and Cable Support Devices: Stainless Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

D. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
2. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
5. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.

B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.

C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with single-bolt conduit clamps.

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.

B. Raceway Support Methods: In addition to methods described in NECA 1, RMC may be supported by openings through structure members, as permitted in NFPA 70.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).

D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Wood: Fasten with lag screws or through bolts.
2. To Existing Concrete: Expansion anchor fasteners.
3. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts.

E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 CONCRETE BASES

A. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base, unless otherwise noted or illustrated.

B. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete.

C. Anchor equipment to concrete base.

1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.5 PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 16073

SECTION 16075 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Identification for conductors.
2. Equipment identification labels.
3. Miscellaneous identification products.

1.3 QUALITY ASSURANCE

A. Comply with ANSI A13.1.

B. Comply with NFPA 70.

C. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.4 COORDINATION

A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

PART 2 - PRODUCTS

2.1 CONDUCTOR IDENTIFICATION MATERIALS

A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.

B. Self-Adhesive, Self-Laminating Polyester Labels: Preprinted, 3-mil- (0.08-mm-) thick flexible label with acrylic pressure-sensitive adhesive that provides a clear, weather- and chemical-

resistant, self-laminating, protective shield over the legend. Labels sized to fit the conductor diameter such that the clear shield overlaps the entire printed legend.

C. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

2.2 EQUIPMENT IDENTIFICATION LABELS

A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

2.3 CABLE TIES

A. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self extinguishing, one piece, self locking, Type 6/6 nylon.

1. Minimum Width: 3/16 inch (5 mm).
2. Tensile Strength at 73 deg F (23 deg C), According to ASTM D 638: 12,000 psi (82.7 MPa).
3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
4. Color: Black.

2.4 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify identity of each item before installing identification products.

B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

C. Apply identification devices to surfaces that require finish after completing finish work.

D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.

E. Attach labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.

3.2 IDENTIFICATION SCHEDULE

A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, and handholes, use color-coding conductor tape to identify the phase.

1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded branch-circuit conductors.

a. Color shall be factory applied.
b. Colors for 208/120-V Circuits:

1) Phase A: Black.
2) Phase B: Red.
3) Phase C: Blue.

c. Colors for 480/277-V Circuits:

1) Phase A: Brown.
2) Phase B: Orange.
3) Phase C: Yellow.

d. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.

B. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

1. Labeling Instructions:

a. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
b. Fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

2. Equipment to Be Labeled:

a. Enclosures and electrical cabinets.
b. Enclosed switches.
c. Enclosed circuit breakers.
d. Enclosed controllers.
e. Push-button stations.
f. Feeder circuit breakers.

END OF SECTION 16075

SECTION 16120 - CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658.

B. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type XHHW-2.

2.2 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Stranded copper.

B. Branch Circuits: Stranded copper.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Exposed Branch Circuits: Type XHHW-2, single conductors in raceway.

B. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type XHHW-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Complete raceway installation between conductor and cable termination points according to Section 16130 "Raceways and Boxes" prior to pulling conductors and cables.

B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

1. Use oxide inhibitor in each splice, termination, and tap.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.5 IDENTIFICATION

A. Identify and color-code conductors and cables according to Section 16075 "Electrical Identification."

END OF SECTION 16120

SECTION 16130 - RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Nonmetal conduits, tubing, and fittings.
3. Boxes, enclosures, and cabinets.

1.3 DEFINITIONS

A. ARC: Aluminum rigid conduit.

B. GRC: Galvanized rigid steel conduit.

C. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

A. Product Data: For surface raceways, wireways and fittings, hinged-cover enclosures, and cabinets.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. GRC: Comply with ANSI C80.1 and UL 6.

C. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

D. Joint Compound for GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS, TUBING, AND FITTINGS

A. Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. LFNC: Comply with UL 1660.

C. Fittings for LFNC: Comply with UL 514B.

D. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.3 BOXES, ENCLOSURES, AND CABINETS

A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

B. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

C. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250 Type 4, 316 stainless steel**,** with continuous-hinge cover unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

D. Cabinets:

1. NEMA 250, Type 4 stainless-steel box with removable interior panel.
2. Hinged door in front cover with concealed hinge.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC.
2. Concealed Conduit, Aboveground: GRC.
3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFNC.
4. Boxes and Enclosures, Aboveground: NEMA 250, Type 4x.

B. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

C. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

3.2 INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.

B. Complete raceway installation before starting conductor installation.

C. Comply with requirements in Section 16073 "Hangers and Supports for Electrical Systems" for hangers and supports.

D. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.

E. Support conduit within 12 inches (300 mm)of enclosures to which attached.

F. Raceways Embedded in Slabs:

1. Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot (3-m)intervals.
2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
3. Arrange raceways to keep a minimum of 2 inches (50 mm) of concrete cover in all directions.
4. Do not embed threadless fittings in concrete unless specifically approved by Engineer for each specific location.

G. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

H. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.

I. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

J. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.

K. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.

L. Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.

M. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

N. Comply with manufacturer's written instructions for solvent welding RNC and fittings.

O. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 36 inches (915mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFNC in damp or wet locations not subject to severe physical damage.

P. Fasten junction and pull boxes to or support from structure. Do not support boxes by conduits.

3.3 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 16130

SECTION 16410 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes individually mounted enclosed switches and circuit breakers used for the following:

1. Feeder and branch-circuit protection.
2. Motor and equipment disconnecting means.

1.3 DEFINITIONS

A. GFCI: Ground-fault circuit interrupter.

B. RMS: Root mean square.

C. SPDT: Single pole, double throw.

1.4 SUBMITTALS

A. Product Data: For each type of switch, circuit breaker, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each switch and circuit breaker.

1. Dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings. Include the following:

a. Enclosure types and details for types other than NEMA 250, Type 1.
b. Current and voltage ratings.
c. Short-circuit current rating.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NEMA AB 1 and NEMA KS 1.

C. Comply with NFPA 70.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation under the following conditions, unless otherwise indicated:

1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.
2. Altitude: Not exceeding 6600 feet.

1.7 COORDINATION

A. Coordinate layout and installation of switches, circuit breakers, and components with other construction, including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

PART 2 - PRODUCTS

2.1 ENCLOSED SWITCHES

A. Enclosed, Fusible Switch, 800 A and Smaller: NEMA KS 1, Type HD, with clips to accommodate specified fuses, lockable handle with two padlocks, and interlocked with cover in closed position.

2.2 ENCLOSED CIRCUIT BREAKERS

A. Molded-Case Circuit Breaker: NEMA AB 1, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
2. Molded-Case Switch: Molded-case circuit breaker without trip units.

B. Molded-Case Circuit-Breaker Features and Accessories: Standard frame sizes, trip ratings, and number of poles.

1. Lugs: Mechanical style suitable for number, size, trip ratings, and material of conductors.

2.3 ENCLOSURES

A. NEMA AB 1 and NEMA KS 1 to meet environmental conditions of installed location.

1. Outdoor Locations: NEMA 250, Type 4X, stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 16 Section "Basic Electrical Materials and Methods."

3.3 CONNECTIONS

A. Install equipment grounding connections for switches and circuit breakers with ground continuity to main electrical ground bus.

B. Install power wiring. Install wiring between switches and circuit breakers, and control and indication devices.

C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.4 FIELD QUALITY CONTROL

A. Prepare for acceptance tests as follows:

1. Test insulation resistance for each enclosed switch, circuit breaker, component, and control circuit.
2. Test continuity of each line- and load-side circuit.

B. Testing: After installing enclosed switches and circuit breakers and after electrical circuitry has been energized, demonstrate product capability and compliance with requirements.

1. Procedures: Perform each visual and mechanical inspection test indicated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.

2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

3.5 CLEANING

A. On completion of installation, inspect interior and exterior of enclosures. Remove paint splatters and other spots. Vacuum dirt and debris; do not use compressed air to assist in cleaning. Repair exposed surfaces to match original finish.

END OF SECTION 16410

SECTION 16420 - ENCLOSED CONTROLLERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes ac general-purpose controllers rated 600 V and less that are supplied as enclosed units.

1.3 SUBMITTALS

A. Product Data: For each type of enclosed controller. Include dimensions and manufacturer's technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each enclosed controller.

1. Dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings. Include the following:

    a. Enclosure types and details.
    b. Nameplate legends.
    c. Short-circuit current rating of integrated unit.
    d. Features, characteristics, ratings, and factory settings of individual overcurrent protective devices in combination controllers.

2. Wiring Diagrams: Power, signal, and control wiring. Differentiate between manufacturer-installed and field-installed wiring.

C. Field Test Reports: Written reports specified in Part 3.

D. Load-Current and List of Settings of Adjustable Overload Relays: Compile after motors have been installed and arrange to demonstrate that dip switch settings for motor running overload protection suit actual motor to be protected.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain enclosed controllers of a single type through one source from a single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store enclosed controllers indoors in clean, dry space with uniform temperature to prevent condensation. Protect enclosed controllers from exposure to dirt, fumes, water, corrosive substances, and physical damage.

1.6 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Engineer at least two days in advance of proposed utility interruptions. Identify extent and duration of utility interruptions.
2. Indicate method of providing temporary utilities.
3. Do not proceed with utility interruptions without Engineer's written permission.

1.7 COORDINATION

A. Coordinate layout and installation of enclosed controllers with other construction including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Coordinate features of enclosed controllers and accessory devices with pilot devices and control circuits to which they connect.

C. Coordinate features, accessories, and functions of each enclosed controller with ratings and characteristics of supply circuit, motor, required control sequence, and duty cycle of motor and load.

PART 2 - PRODUCTS

2.1 MAGNETIC ENCLOSED CONTROLLERS

A. Description: NEMA ICS 2, Class A, full voltage, nonreversing, across the line, unless otherwise indicated.

B. Control Circuit: 120 V; obtained from integral control power transformer < with a control power transformer of sufficient capacity to operate connected pilot, indicating and control devices, plus 100 percent spare capacity.

C. Combination Controller: Factory-assembled combination controller and disconnect switch.

1. Fusible Disconnecting Means: NEMA KS 1, heavy-duty, fusible switch with rejection-type fuse clips rated for fuses. Select and size fuses to provide Type 2 protection according to IEC 947-4-1, as certified by a nationally recognized testing laboratory.
2. Circuit-Breaker Disconnecting Means: NEMA AB 1, motor-circuit protector with field-adjustable, short-circuit trip coordinated with motor locked-rotor amperes.

D. Adjustable Overload Relay: Dip switch selectable for motor running overload protection with NEMA ICS 2, Class 10 tripping characteristic, and selected to protect motor against voltage and current unbalance and single phasing.

2.2 ENCLOSURES

A. Description: Flush- or surface-mounted cabinets as indicated. NEMA 250, Type 1, unless otherwise indicated to comply with environmental conditions at installed location.

1. Outdoor Locations: NEMA 250, Type 4X, stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and surfaces to receive enclosed controllers for compliance with requirements, installation tolerances, and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

A. Select features of each enclosed controller to coordinate with ratings and characteristics of supply circuit and motor; required control sequence; duty cycle of motor, drive, and load; and configuration of pilot device and control circuit affecting controller functions.

B. Select horsepower rating of controllers to suit motor controlled.

3.3 IDENTIFICATION

A. Identify enclosed controller components and control wiring according to Division 16 Section "Electrical Identification."

3.4 CONTROL WIRING INSTALLATION

A. Install wiring between enclosed controllers according to Division 16 Section "Conductors and Cables."

B. Bundle, train, and support wiring in enclosures.

C. Connect automatic-control devices where applicable.

3.5 CONNECTIONS

A. Conduit installation requirements are specified in other Division 16 Sections. Drawings indicate general arrangement of conduit, fittings, and specialties.

B. Ground equipment.

C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.6 FIELD QUALITY CONTROL

A. Prepare for acceptance tests as follows:

1. Test insulation resistance for each enclosed controller bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

B. Testing: Perform the following field quality-control testing:

1. Perform each visual and mechanical inspection indicated in NETA ATS, Sections 7.5, 7.6, and 7.16.
2. Certify compliance with test parameters.
3. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

C. Test Reports: Prepare a written report to record the following:

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

3.7 ADJUSTING

A. Set field-adjustable switches and circuit-breaker trip ranges.

3.8 CLEANING

A. Clean enclosed controllers internally, on completion of installation, according to manufacturer's written instructions. Vacuum dirt and debris; do not use compressed air to assist in cleaning.

3.9 STARTUP SERVICE

A. Verify that enclosed controllers are installed and connected according to the Contract Documents.

B. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements in Division 16 Sections.

C. Complete installation and startup checks according to manufacturer's written instructions.

3.10 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain enclosed.

1. Train Owner's maintenance personnel on procedures and schedules for starting and stopping, troubleshooting, servicing, and maintaining equipment and schedules.
2. Schedule training with Owner, through Engineer, with at least seven days' advance notice.

END OF SECTION 16420

SECTION 16521 - EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Exterior luminaires.
2. Poles and accessories.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color-rendering index.

C. LER: Luminaire efficacy rating.

D. Luminaire: Complete lighting fixture, including ballast housing if provided.

E. Pole: Luminaire support structure, including tower used for large area illumination.

F. Standard: Same definition as "Pole" above.

1.4 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

A. Dead Load: Weight of luminaire and its horizontal and vertical supports, and supporting structure, applied as stated in AASHTO LTS-4-M.

B. Live Load: Single load of 500 lbf (2224 N), distributed as stated in AASHTO LTS-4-M.

C. Ice Load: Load of 3 lbf/sq. ft. (145 Pa), applied as stated in AASHTO LTS-4-M Ice Load Map.

D. Wind Load: Pressure of wind on pole and luminaire and banners and banner arms, calculated and applied as stated in AASHTO LTS-4-M.

1. Basic wind speed for calculating wind load for poles 50 feet (15 m) high or less is 100 mph (45 m/s).

a. Wind Importance Factor: 1.0.
b. Minimum Design Life: 25 years.
c. Velocity Conversion Factors: 1.0.

1.5 ACTION SUBMITTALS

A. Product Data: For each luminaire, pole, and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:

1. Physical description of luminaire, including materials, dimensions, effective projected area, and verification of indicated parameters.
2. Details of attaching luminaires and accessories.
3. Details of installation and construction.
4. Luminaire materials.
5. Photometric data based on laboratory tests of each luminaire type, complete with indicated lamps, ballasts, and accessories.

    a. Manufacturer Certified Data: Photometric data shall be certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.

6. Materials, dimensions, and finishes of poles.
7. Means of attaching luminaires to supports, and indication that attachment is suitable for components involved.
8. Anchor bolts for poles.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Anchor-bolt templates keyed to specific poles and certified by manufacturer.

1.6 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

B. Warranty: Sample of special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires and poles to include in emergency, operation, and maintenance manuals.

1.8 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Comply with NFPA 70.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Store poles on decay-resistant-treated skids at least 12 inches (300 mm) above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.

B. Retain factory-applied pole wrappings on metal poles until right before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.

1. Warranty Period for Luminaires: Five years from date of Substantial Completion.
2. Warranty Period for Metal Corrosion: Five years from date of Substantial Completion.
3. Warranty Period for Color Retention: Five years from date of Substantial Completion.
4. Warranty Period for Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period, but not less than three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide product indicated on Drawings

2.2 GENERAL REQUIREMENTS FOR LUMINAIRES

A. Luminaires shall comply with UL 1598 and be listed and labeled for installation in wet locations by an NRTL acceptable to authorities having jurisdiction.

1. LER Tests Incandescent Fixtures: Where LER is specified, test according to NEMA LE 5A.

B. Lateral Light Distribution Patterns: Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.

C. Metal Parts: Free of burrs and sharp corners and edges.

D. Sheet Metal Components: Corrosion-resistant aluminum unless otherwise indicated. Form and support to prevent warping and sagging.

E. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.

F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit service without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during serviceing and when secured in operating position. Doors shall be removable for cleaning or replacing lenses. Designed to disconnect ballast when door opens.

G. Exposed Hardware Material: Stainless steel.

H. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.

I. Light Shields: Metal baffles, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.

J. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.
3. Diffusing Specular Surfaces: 75 percent.

K. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

L. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.

M. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps and ballasts. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

2.3 GENERAL REQUIREMENTS FOR POLES AND SUPPORT COMPONENTS

A. Structural Characteristics: Comply with AASHTO LTS-4-M.

1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of speed indicated in "Structural Analysis Criteria for Pole Selection" Article.
2. Strength Analysis: For each pole, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.

B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts unless otherwise indicated.

C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.

1. Materials: Shall not cause galvanic action at contact points.
2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.
3. Anchor-Bolt Template: Plywood or steel.

D. Handhole: Oval-shaped, with minimum clear opening of 2-1/2 by 5 inches (65 by 130 mm), with cover secured by stainless-steel captive screws.

E. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange.

2.4 STEEL POLES

A. Poles: Comply with ASTM A 500, Grade B, carbon steel with a minimum yield of 46,000 psig (317 MPa); one-piece construction up to 40 feet (12 m) in height with access handhole in pole wall.

B. Steel Mast Arms: Truss type, continuously welded to pole attachment plate. Material and finish same as pole.

C. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Adapter fitting welded to pole, allowing the bracket to be bolted to the pole mounted adapter, then bolted together with stainless-steel bolts.
2. Match pole material and finish.

D. Grounding and Bonding Lugs: Welded 1/2-inch (13-mm) threaded lug, complying with requirements in Section 16060 "Grounding and Bonding," listed for attaching grounding and bonding conductors of type and size listed in that Section, and accessible through handhole.

E. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.

F. Galvanized Finish: After fabrication, hot-dip galvanize complying with ASTM A 123/A 123M.

G. Factory-Painted Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or with SSPC-SP 8, "Pickling."
2. Interior Surfaces of Pole: One coat of bituminous paint, or otherwise treat for equal corrosion protection.

3. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.

a. Color: As indicated by manufacturer's designations.

2.5 POLE ACCESSORIES

A. Decorative accessories, supplied by decorative pole manufacturer, include the following:

1. Banner Arms.

PART 3 - EXECUTION

3.1 LUMINAIRE INSTALLATION

A. Fasten luminaire to indicated structural supports.

1. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.

3.2 POLE INSTALLATION

A. Alignment: Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on the pole.

B. Foundation-Mounted Poles: Mount pole with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.

1. Grout void between pole base and foundation. Use nonshrink or expanding concrete grout firmly packed to fill space.
2. Use a short piece of 1/2-inch- (13-mm-) diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.

C. Raise and set poles using web fabric slings (not chain or cable).

3.3 CORROSION PREVENTION

A. Steel Conduits: Comply with Section 16130 "Raceways and Boxes."

3.4 GROUNDING

A. Ground metal poles and support structures according to Section 16060 "Grounding and Bonding."

1. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.

3.5 FIELD QUALITY CONTROL

A. Inspect each installed fixture for damage. Replace damaged fixtures and components.

B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.

1. Verify operation of photoelectric controls.

C. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

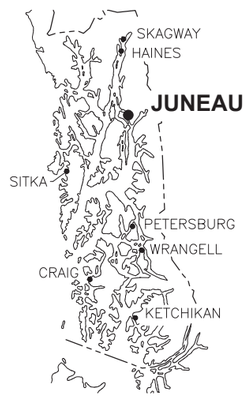
END OF SECTION 16521

CITY & BOROUGH OF JUNEAU, ALASKA

MARINE PARK DECKOVER

CBJ CONTRACT NO. BE21-203

LOCATION MAP



SOUTHEAST ALASKA

THIS PROJECT

VICINITY MAP

SCALE MILES
0 ⅛ ¼

AERIAL PHOTO FROM AEROMAP

TIDAL DATA	ELEV. (FT)
HIGHEST OBSERVED WATER LEVEL	+24.58
MEAN HIGHER HIGH WATER (MHHW)	+16.30
MEAN HIGH WATER (MHW)	+15.34
MEAN SEA LEVEL (MSL)	+8.56
MEAN TIDE LEVEL (MTL)	+8.47
MEAN LOW WATER (MLW)	+1.60
MEAN LOWER LOW WATER (MLLW)	0.0
LOWEST OBSERVED WATER LEVEL	−6.12

FROM:
NOAA NOS/CO-OPS STATION ID: 9452210 JUNEAU, ALASKA

DRAWING INDEX

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: – CHECKED: JLD
DRAWN: – APPROVED: JLD
SCALE: AS SHOWN
DATE: 07/19/2021

STATE OF ALASKA 49TH
John L. DeMuth
SE-14159
REGISTERED STRUCTURAL ENGINEER

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
TITLE SHEET, VICINITY MAP AND DRAWING INDEX

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

G101

ABBREVIATIONS

A	
@	AT
AC	ASBESTOS CEMENT PIPE
ACP	ASPHALT CONCRETE PAVEMENT
ADD	ADDITIVE
ADJ	ADJUSTABLE
AKDOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ALT	ALTERNATE
APPROX.	APPROXIMATE
ATS	ALASKA TIDELANDS SURVEY
AWS	AMERICAN WELDING SOCIETY
B	
BLDG	BUILDING
BTM, BOT	BOTTOM
C	
C&G	CURB & GUTTER
CB	CATCH BASIN
CBJ	CITY AND BOROUGH OF JUNEAU
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
℄	CENTER LINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CP	COMPLETE PENETRATION
CPP	CORRUGATED POLYETHYLENE PIPE
COR	CORNER
CSC	COUNTERSINK
CY	CUBIC YARD
D	
D/DIA	DIAMETER
DBL	DOUBLE
DIP	DUCTILE IRON PIPE
DIM	DIMENSION
DN	DOWN
DTL	DETAIL
E	
E	EAST
EA.	EACH
EG	EXISTING GROUND
EJ	EXPANSION JOINT
EL/ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
F	
FC	FACE OF CURB
FD	FLOOR DRAIN
FG	FINISH GRADE
FH	FIRE HYDRANT, FLAT HEAD
FIN	FINISH (ED)
FM	FORCE MAIN SEWER
FT	FOOT
FTG	FOOTING
FL	FLOWLINE
G	
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GV	GATE VALVE

H	
H&T	HUB & TACK
HD	HEAVY DUTY
HDG	HOT-DIPPED GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HSE	HOUSE
HT	HEIGHT
HWY.	HIGHWAY
I	
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
IP	IRON PIPE
INV	INVERT
J	
JB	JUNCTION BOX
L	
LBS	POUNDS
LF	LINEAR FEET
LL	LIVE LOAD
LOC	LOCATION
LS	LUMP SUM
M	
MAX	MAXIMUM
ME	MATCH EXISTING
MECH	MECHANICAL
MFR	MANUFACTURE (R)
MH	MANHOLE
MJ	MECHANICAL JOINT
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
MSE	MECHANICALLY STABILIZED EARTH
MTL	MATERIAL (S)
N	
N	NORTH
NFS	NON FROST SUSCEPTIBLE
NO	NUMBER
NTS	NOT TO SCALE
O	
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRICAL
OWS	OIL-WATER SEPARATOR
P	
P	PIPE
PC	POINT OF CURVATURE, PIECE
PCC	PRECAST CONCRETE
PED	PEDESTAL
PI	POINT OF INTERSECTION
PL	PROPERTY LINE, PLATE
PRV	PRESSURE REDUCING VALVE
PSI	POUND PER SQUARE INCH
PT	POINT, PRESSURE TREATED, POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE, POLY VINYL CHLORIDE
Q	
QTY	QUANTITY

R	
RAD	RADIUS
RE	RIM ELEVATION
REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
RET	RETAINING
RO	ROUGH OPENING
ROW	RIGHT OF WAY
S	
S	SOUTH
SCHED	SCHEDULE
SD	STORM DRAIN
SDI	STORM DRAIN INLET STRUCTURE
SDO	STORM DRAIN OUTLET STRUCTURE
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FOOT
SHLDR	SHOULDER
SI	STREET INTERSECTION
SPEC	SPECIFICATION (S)
SQ	SQUARE
SRB	SHOT ROCK BORROW
SSC	SANITARY SEWER CONNECTION
SS	STAINLESS STEEL, SANITARY SEWER
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
STL	STEEL
STRG	STRONG
SW	SIDEWALK
SWR	SEWER
SY	SQUARE YARD
SYM	SYMMETRICAL
T	
t.	THICK
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TBC	TOP BACK OF CURB
TBD	TO BE DETERMINED
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
TYP	TYPICAL
U	
UON	UNLESS OTHERWISE NOTED
UPC	UNIFORM PLUMBING CODE
USCG	UNITED STATES COAST GUARD
V	
VB	VALVE BOX
VERT	VERTICAL
W	
W	WEST
w/	WITH
WD	WOOD
WL	WATERLINE
WV	WATER VALVE
W/O	WITHOUT
<PT	ANGLE POINT

LEGEND

EXISTING	THIS PROJECT	
T		TELEPHONE PEDESTAL
V		TELEVISION PEDESTAL
E		ELECTRICAL PEDESTAL
x x		FENCE
FU A		FUEL LINE (ABANDONED)
FO x		FUEL LINE
E A		ELECTRICAL (ABANDONED)
Eux		ELECTRICAL (UNDERGROUND)
OHEx		ELECTRICAL (OVERHEAD)
Wx		WATER
SSx		SANITARY SEWER
ROW		RIGHT-OF-WAY
Cux		COMMUNICATION (CABLE/TEL)
SDx		STORM DRAIN
FMx		FORCE MAIN
FDx		FOUNDATION DRAIN PIPE
		PROPERTY LINE
		GUY WIRE ANCHOR
		GUARDRAIL
		BOLLARD
		CURB & GUTTER
E		ELECTRICAL TRANSFORMER
EMH		ELECTRICAL VAULT
H		ELECTRICAL HANDHOLE
		FIRE HYDRANT
	5	LAYOUT POINT
		LIGHT POLE
SSMH		SANITARY SEWER MANHOLE
SDMH		STORM DRAIN MANHOLE
		STORM DRAIN INLET
		SIGN
		WATER VALVE
, OUP		UTILITY POLE

A 1.02 — SECTION OR DETAIL CALLOUT; LOCATION OF DETAIL OR REFERENCE DRAWING

GENERAL NOTES

1. PROPERTY DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION OR BETTER AT NO ADDITIONAL COST.
2. CBJ ENGINEERING STANDARD DETAILS BOOK DATED AUGUST, 2011 IS MADE A PART OF THIS CONTRACT, WITH CURRENT REVISIONS AS APPLICABLE. STANDARD DETAILS SHALL ONLY BE UTILIZED AS SPECIFICALLY REFERENCED IN THE DRAWINGS WITH MODIFICATIONS SPECIFIED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO ALL APPLICABLE, LOCAL, STATE AND FEDERAL CODES, PERMITS AND SAFETY REQUIREMENTS.
4. THE LOCATIONS OF EXISTING FEATURES AND UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE. ADDITIONAL UTILITIES NOT SHOWN IN THESE DRAWINGS MAY BE PRESENT. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS IN THE FIELD AS NECESSARY, PRIOR TO BEGINNING WORK. THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD SHALL BE RECORDED ON THE CONTRACTOR'S RECORD DRAWINGS. CONTACT LOCAL UTILITY COMPANIES PRIOR TO ANY/ ALL EXCAVATIONS AT THE FOLLOWING TELEPHONE NUMBERS:

DIAL BEFORE YOU DIG!
586-1333
UNDERGROUND POWER, TELEPHONE, T.V., COMMUNICATIONS, WATER AND WASTEWATER LINES ARE IN THE AREA. UTILITIES SHOWN HERE DO NOT SUBSTITUTE FOR FIELD LOCATES.

5. GRADING IS SUBJECT TO MINOR REVISIONS BY THE ENGINEER TO FIT SITE CONDITIONS, AT NO ADDITIONAL COST.
6. CONTRACTOR SHALL COORDINATE WITH ALL AFFECTED BOROUGH DEPARTMENTS AND LOCAL UTILITY COMPANIES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL NOT DISRUPT UTILITY SERVICES EXCEPT AS REQUIRED TO COMPLETE THE RECONFIGURATION OF THOSE SERVICES AS SHOWN IN THE PLANS. COORDINATE ANY DISRUPTIONS WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE.

CITY AND BOROUGH OF JUNEAU — ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: WRB CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN
DATE: 07/19/2021

STATE OF ALASKA 49TH — John L. DeMuth SE-14159 — REGISTERED STRUCTURAL ENGINEER

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

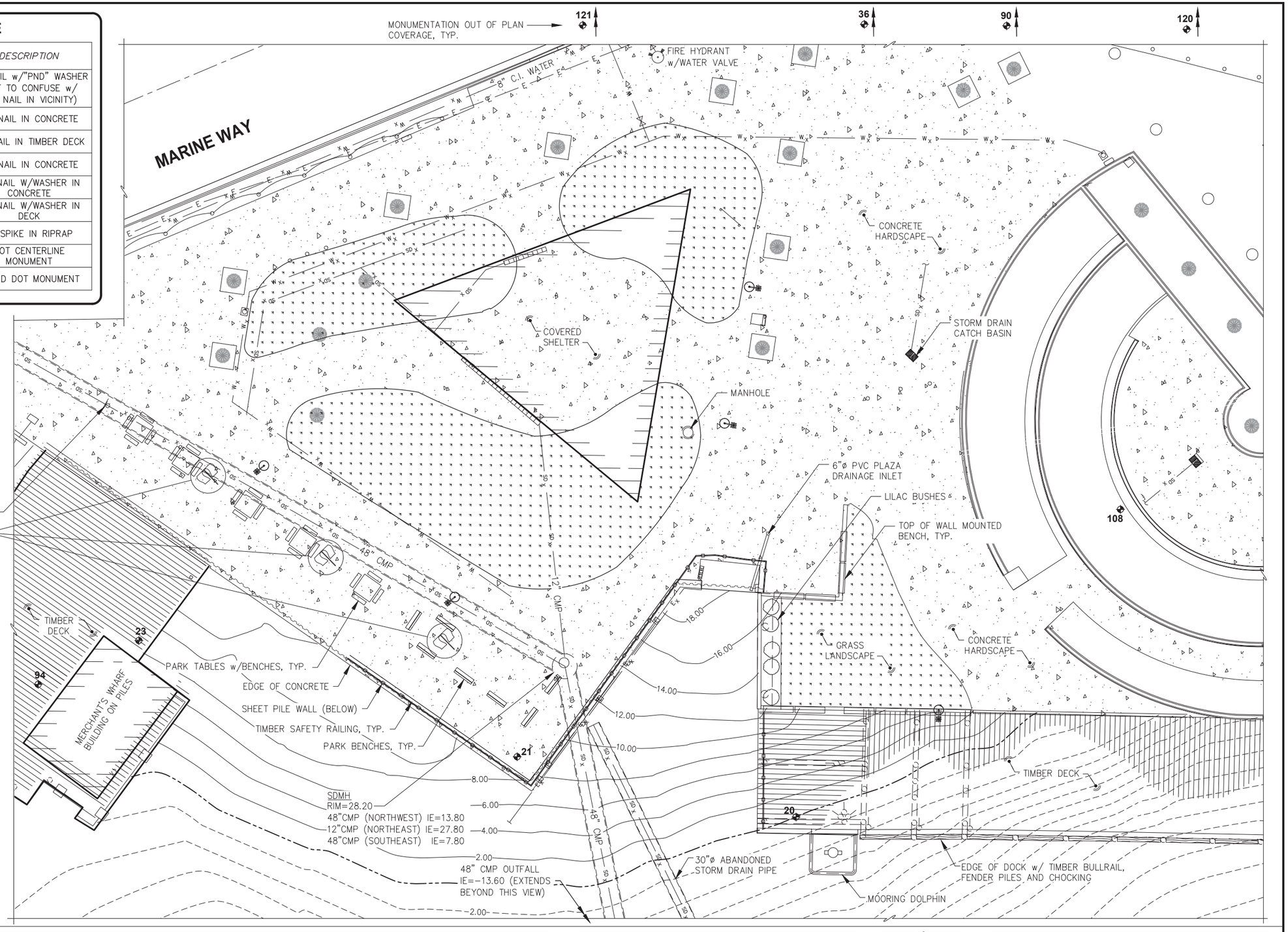
SHEET TITLE:
LEGEND, ABBREVIATIONS AND GENERAL NOTES

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

G102

SURVEY CONTROL TABLE

POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
20	479102.0310'	531332.7223'	30.80	MAGNAIL w/"PND" WASHER (NOT TO CONFUSE w/ DOT NAIL IN VICINITY)
21	479149.4158'	531301.5003'	27.98	MAGNAIL IN CONCRETE
23	479217.8571'	531263.9494'	27.73	MAGNAIL IN TIMBER DECK
36	479211.4549'	531455.2561'	28.20	MAGNAIL IN CONCRETE
90	479181.2690'	531485.5685'	27.25	MAGNAIL W/WASHER IN CONCRETE
94	479226.0373'	531242.7667'	27.86	MAGNAIL W/WASHER IN DECK
108	479099.0824'	531421.6149'	11.31	8" SPIKE IN RIPRAP
120	479183.2193'	531521.8351'	26.68	DOT CENTERLINE MONUMENT
121	479261.0547'	531429.1469'	27.16	FOUND DOT MONUMENT



NOTES:

1. THIS SURVEY WAS CONDUCTED IN OCTOBER AND DECEMBER 2011.
2. PROPERTY LINE LOCATIONS AND RIGHT-OF-WAY (ROW) ARE SHOWN APPROXIMATE AND ARE BASED ON RECORD PLATS AND FOUND MONUMENTS. SEE CBJ PLAT 340 "TIDELANDS ADDITION TO THE CITY OF JUNEAU". SEE ADOT&PF RIGHT OF WAY ALASKA MAP PROJECT F-093-1(1) AND F-093-2(5).
3. VERTICAL CONTROL ESTABLISHED ON NAVD 88 VERTICAL DATUM, REFERENCED TO THE NOAA TIDAL BENCHMARK 945 2210 TIDAL 9. THE BENCH MARK IS A DISK SET VERTICALLY IN THE SOUTH CORNER OF THE GASTINEAU APARTMENTS BUILDING AT 127 SOUTH FRANKLIN STREET. BENCHMARK EL=32.185' MLLW.
4. ALL EXISTING UTILITIES ARE SHOWN FROM SURVEYED INFORMATION, SURVEYED UTILITY LOCATES, AS-BUILT RECORDS PROVIDED BY THE CITY AND BOROUGH OF JUNEAU AND THE MERCHANT'S WHARF MANAGEMENT. FIELD VERIFY ALL EXISTING UTILITIES AND EXISTING CONDITIONS
5. ALL TOPOGRAPHICAL INFORMATION DISPLAYED WITHIN THE RIGHT-OF-WAY, UNLESS OTHERWISE SPECIFIED, IS SHOWN AS PROVIDED BY THE ALASKA DEPARTMENT OF HIGHWAYS AND PUBLIC FACILITIES.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: WRB CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: SCALE IN FEET 0 10 20 FT.

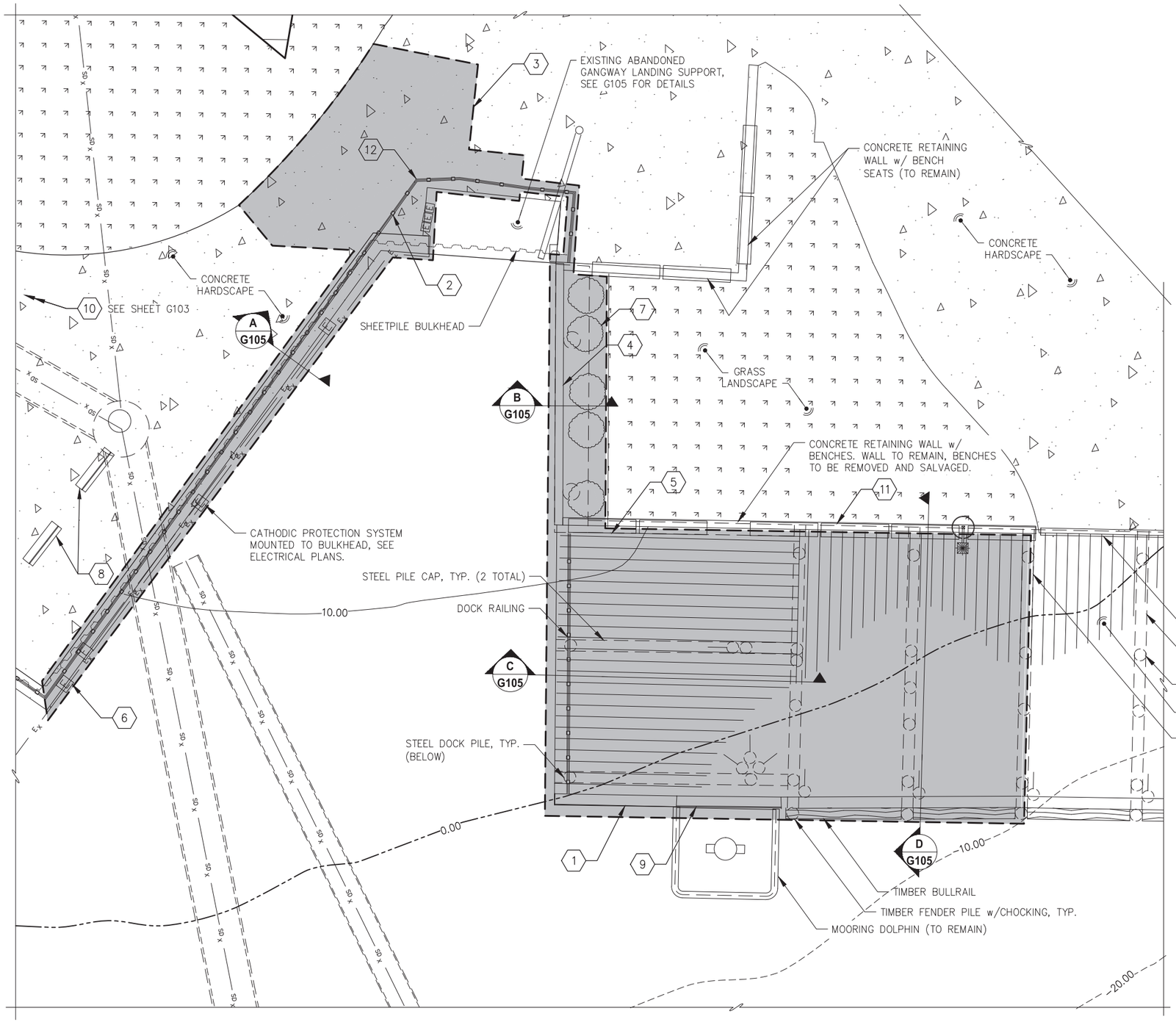
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
EXISTING CONDITIONS AND SURVEY CONTROL

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

G103



DEMOLITION NOTES

DESIGNATION	DESCRIPTION
1	DEMOLISH AND DISPOSE EXISTING TIMBER DOCK TO LIMITS SHOWN; ITEMS TO BE DEMOLISHED INCLUDE STEEL AND TIMBER PILES, STEEL AND TIMBER PILE CAPS, TIMBER AND GLULAM STRINGERS, TIMBER DECKING AND BULLRAIL, RAILING SYSTEM, FENDER PILES AND FENDER SYSTEM CHOCKING.
2	DEMOLISH AND DISPOSE EXISTING TIMBER RAILING ALONG SOUTH EDGE OF BULKHEAD AND OPPOSITE SIDE OF GANGWAY ABUTMENT OPENING.
3	DEMOLISH AND DISPOSE EXISTING DAMAGED SIDEWALK AREA ADJACENT TO GANGWAY ABUTMENT OPENING. SEE STORM DRAIN DETAILS FOR DEMOLITION LIMITS.
4	DEMOLISH AND DISPOSE PARTIAL EXISTING RETAINING WALL ALONG NORTH EDGE OF EXISTING LANDSCAPE AREA.
5	DEMOLISH AND DISPOSE EXISTING CONCRETE LEDGER UNDER NORTH END OF EXISTING TIMBER DOCK TO EXTENT NECESSARY TO AVOID CONFLICT w/ NEW PILE CAPS, STRINGERS AND DECK. SEE SECTION D/G105.
6	REMOVE, SALVAGE AND RELOCATE/INSTALL PORTIONS OF EXISTING CATHODIC PROTECTION SYSTEM IDENTIFIED IN ELECTRICAL DEMOLITION SUMMARY.
7	REMOVE AND SALVAGE LILAC BUSHES. (COORDINATE w/ CBJ)
8	REMOVE AND SALVAGE (2) PARK BENCHES. (DELIVER TO CBJ DOCKS AND HARBORS)
9	REMOVE AND DISPOSE TRANSITION PLATE AT DOLPHIN WELDMENT.
10	REMOVE AND SALVAGE PARK BANNER POLES. (DELIVER TO CBJ DOCKS AND HARBORS) SEE SHEET G103
11	REMOVE AND SALVAGE TOP OF WALL MOUNTED BENCHES AND HARDWARE (DELIVER TO CBJ DOCKS AND HARBORS). GROUT HOLES IN TOP OF WALL FLUSH.
12	REMOVE AND SALVAGE DOG WASTE DISPENSER (DELIVER TO CBJ PARKS AND REC).

PILE DEMOLITION SCHEDULE ** SEE NOTE

LOCATION	QUANTITY	TYPE	DIAMETER	NOTES
TIMBER DOCK	3 EA.	STEEL	12¾"	VERTICAL AND BATTER PILES
	5 EA.	STEEL	16"	VERTICAL AND BATTER PILES
	15 EA.	TIMBER	16"	VERTICAL, BATTER AND FENDER PILES

**NOTE:
TO COMPLY WITH PROJECT PERMIT REQUIREMENTS DEMOLITION/REMOVAL OF ALL PILES IDENTIFIED HEREIN SHALL BE ACCOMPLISHED UTILIZING ONE OF THE FOLLOWING MEANS/METHODS:

- DURING LOW TIDE SUCH THAT PILE IS OUT OF THE WATER
- DEAD-PULLED WITHOUT USE OF VIBRATORY HAMMER
- CUTOFF AT MUDLINE

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: SCALE IN FEET 0 5 10 FT.

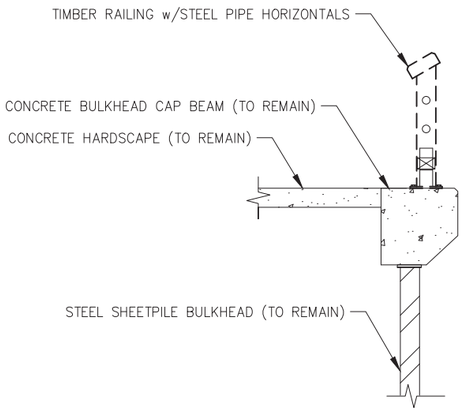
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

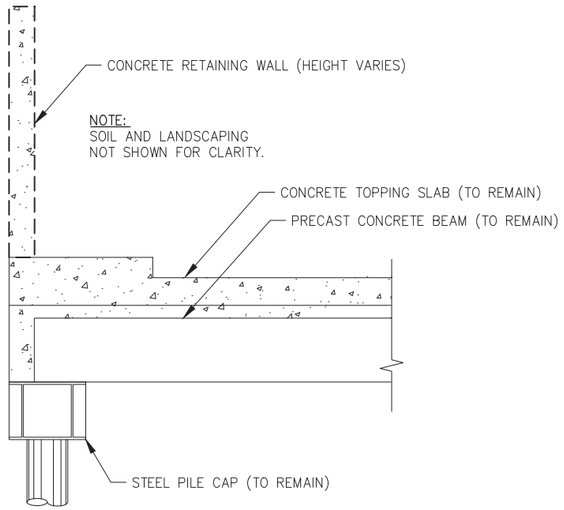
SHEET TITLE: **DEMOLITION PLAN**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

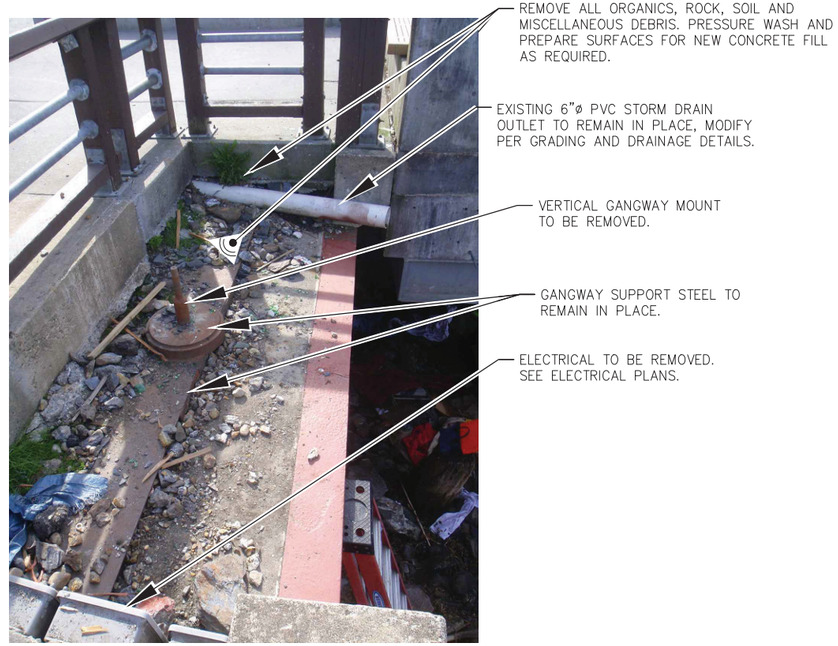
G104



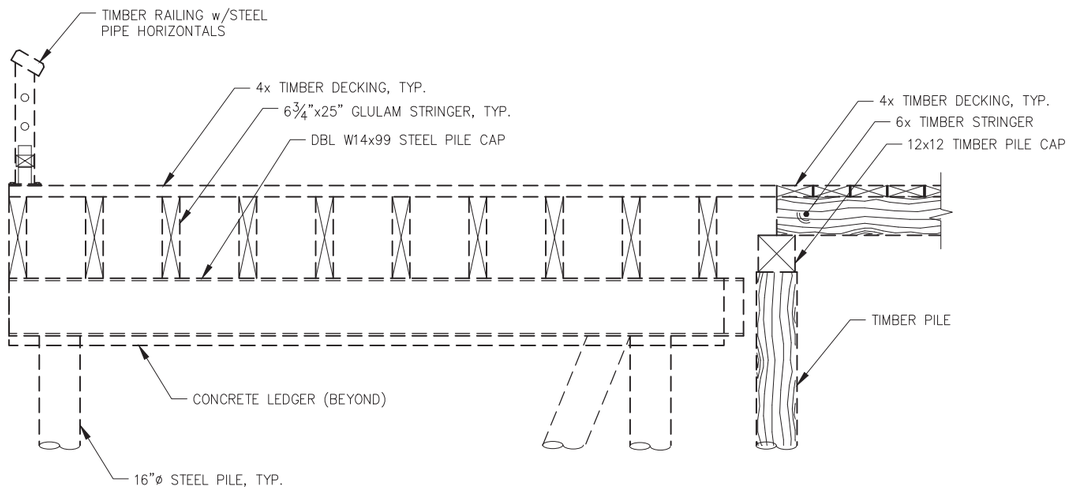
A G104 **SECTION AT RAILING**



B G104 **SECTION AT RETAINING WALL**

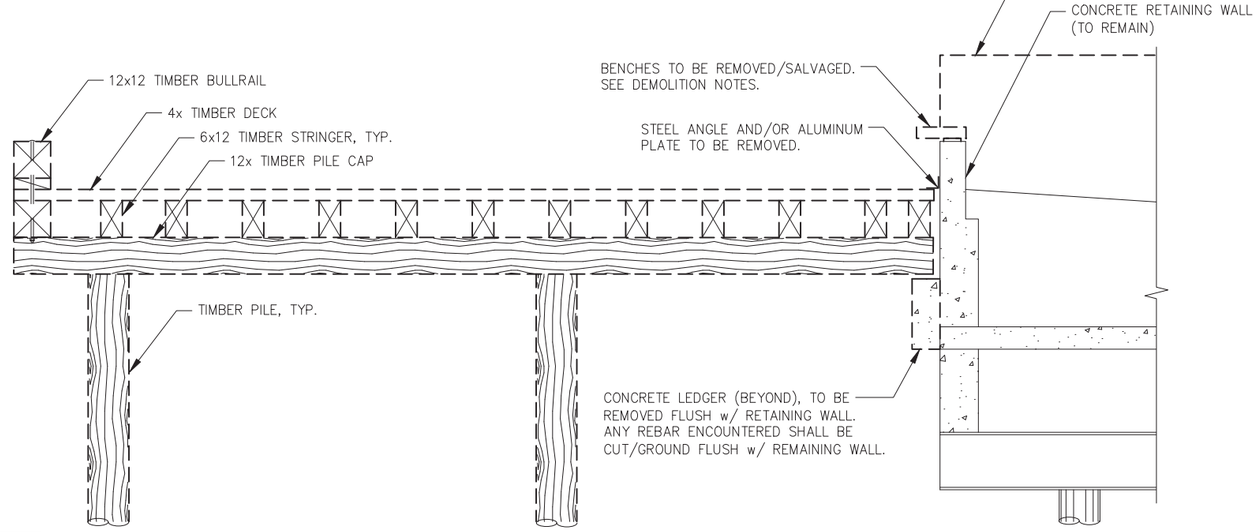


E G104 **EXISTING ABANDONED GANGWAY SUPPORT**



C G104 **SECTION ALONG TIMBER DOCK**

LEGEND:
- - - - - - - - = DEMOLISH AND DISPOSE, TYP.



D G104 **SECTION THRU TIMBER DOCK**

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: WRB CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

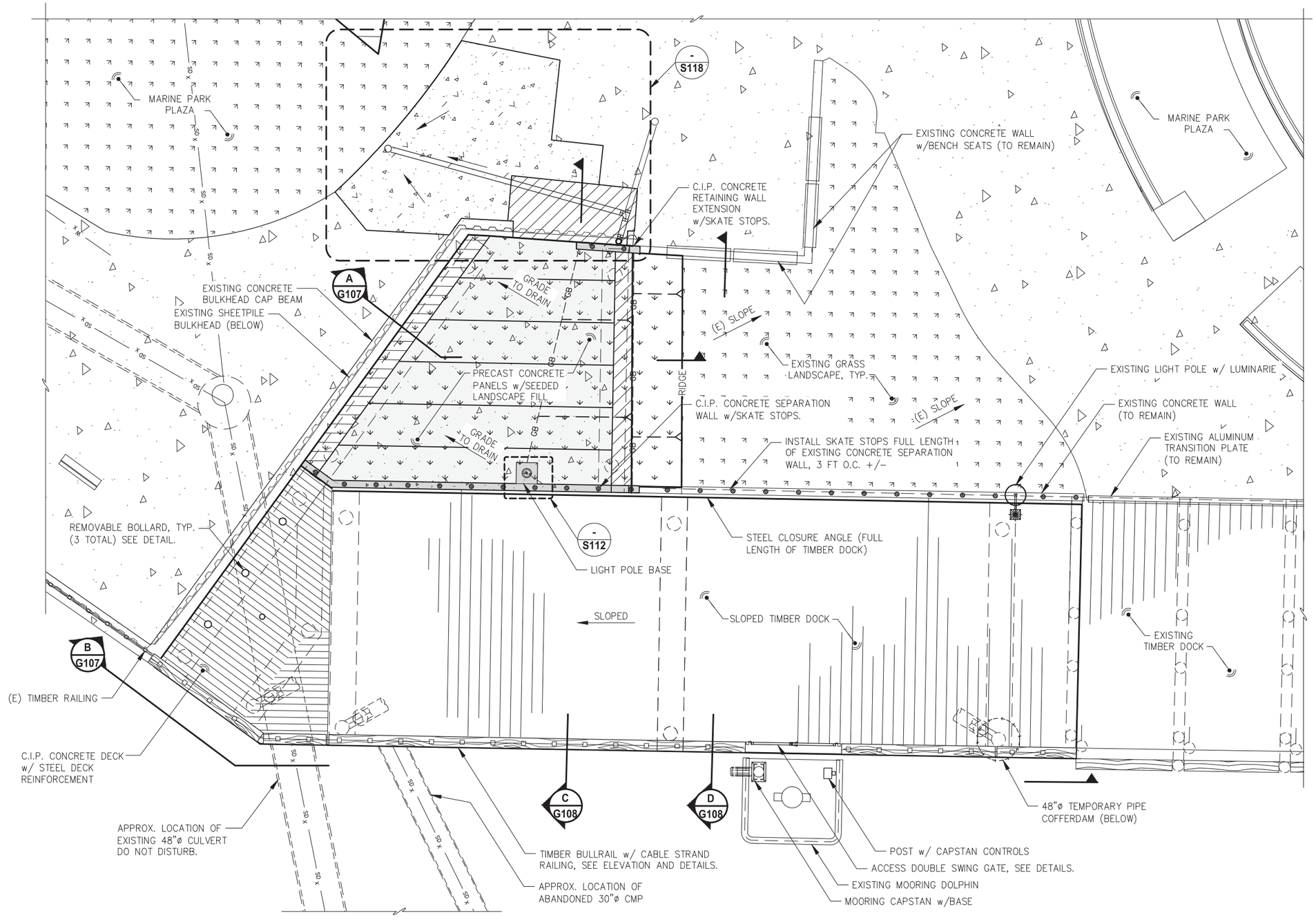
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
DEMOLITION DETAILS

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

G105



GENERAL NOTES:

- STAGING AREA AVAILABLE TO THE CONTRACTOR SHALL BE LIMITED TO APPROX. 5,000 SF WITHIN THE "BRICKYARD" LOT. THE EXACT LOCATION SHALL BE COORDINATED WITH THE CBJ. A PRE-CONSTRUCTION CONDITION ASSESSMENT WILL BE MADE OF THE DESIGNATED STAGING AREA AND AREAS PERIPHERAL TO THE PROJECT. ANY DAMAGE THAT OCCURS AS A RESULT OF CONTRACTOR ACTIVITY SHALL BE REPAIRED BY THE CONTRACTOR TO THE CBJ'S SATISFACTION AND AT NO ADDITIONAL COST TO THE CBJ.
- HARDSCAPE AND LANDSCAPE SURROUNDING THE PROJECT AREA ARE SUSCEPTIBLE TO DAMAGE AND ARE NOT RATED FOR LARGE EQUIPMENT AND HEAVY WHEEL LOADS. USE OF A LARGE TRUCK CRANE POSITIONED ON SHORE TO CONDUCT PROJECT WORK WILL NOT BE ALLOWED.
- CONTRACTOR SHALL PERFORM THEIR OWN ASSESSMENT AND CONFIRM ACCESSIBILITY TO PROJECT SITE FOR ALL EQUIPMENT INTENDED TO BE USED ON THE PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO ADEQUATE WATER DEPTH AT ALL TIDE LEVELS AND LOAD CAPACITY OF ADJACENT HARDSCAPE AND DOCK STRUCTURES. CONTRACTOR'S WORK PLAN SHALL BE DEVELOPED ACCORDINGLY.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: SCALE IN FEET 0 5 10 FT.

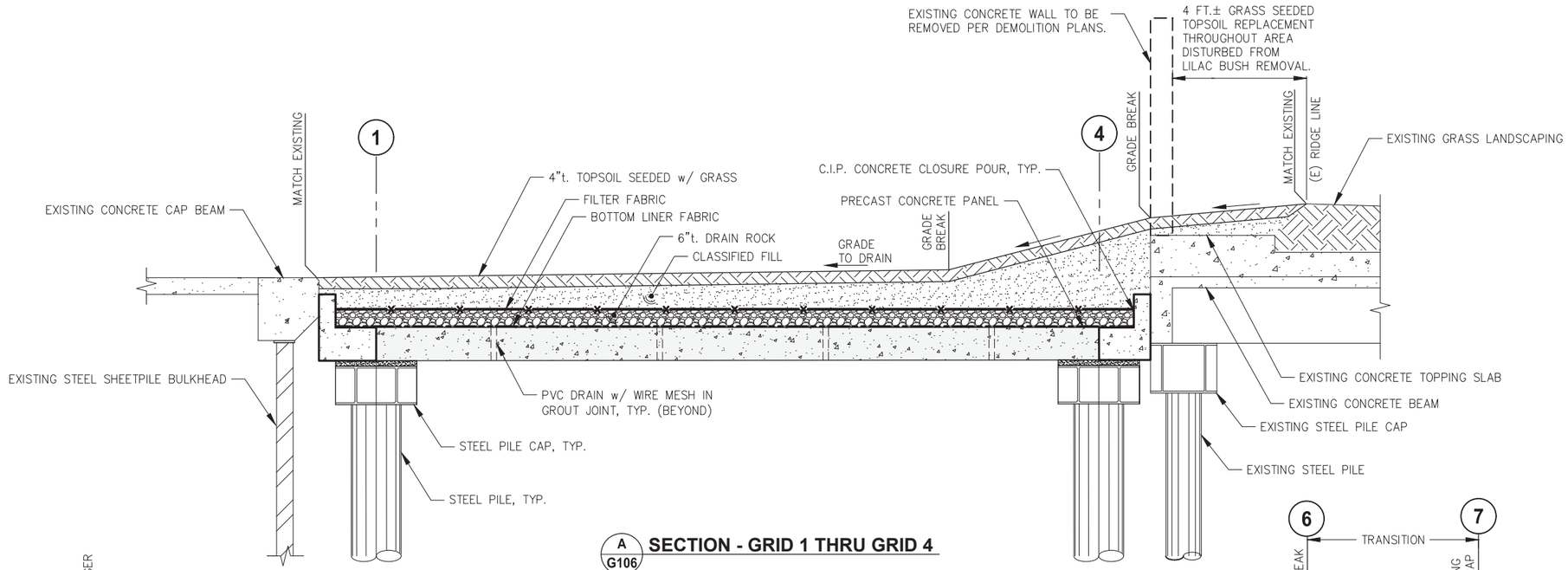
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

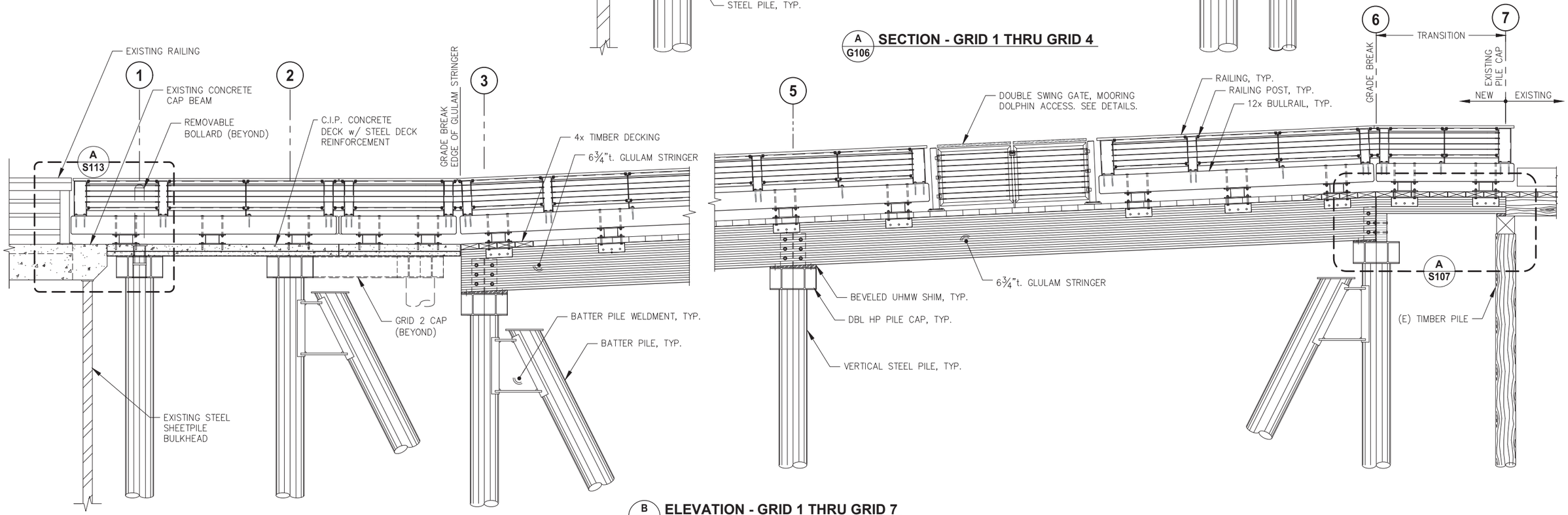
SHEET TITLE:
OVERALL SITE PLAN WITH GRADING

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

G106



A G106 **SECTION - GRID 1 THRU GRID 4**



B G106 **ELEVATION - GRID 1 THRU GRID 7**

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

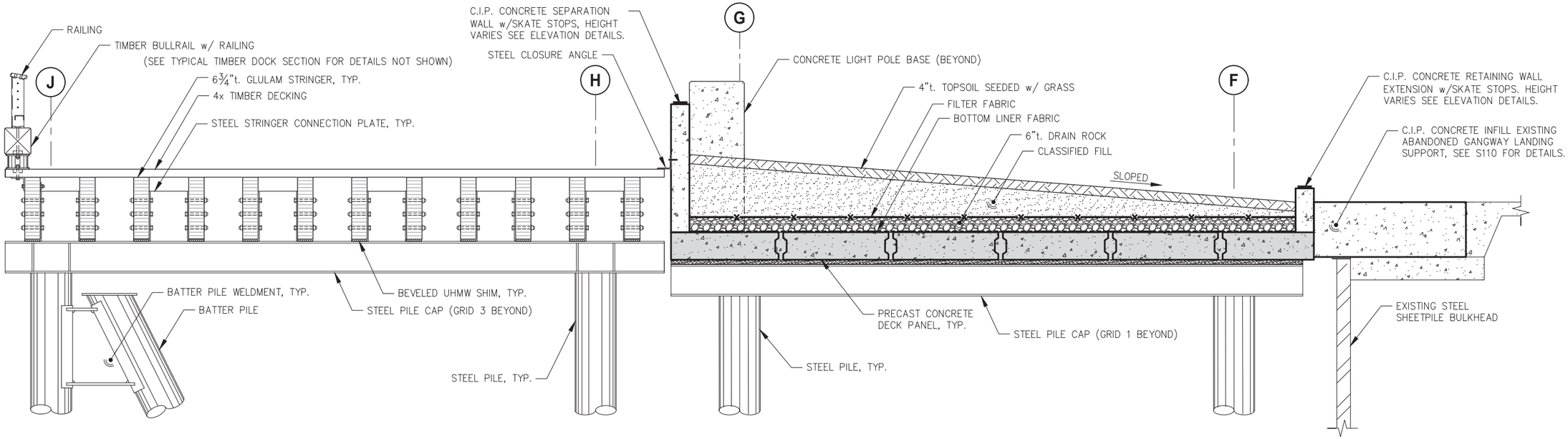
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

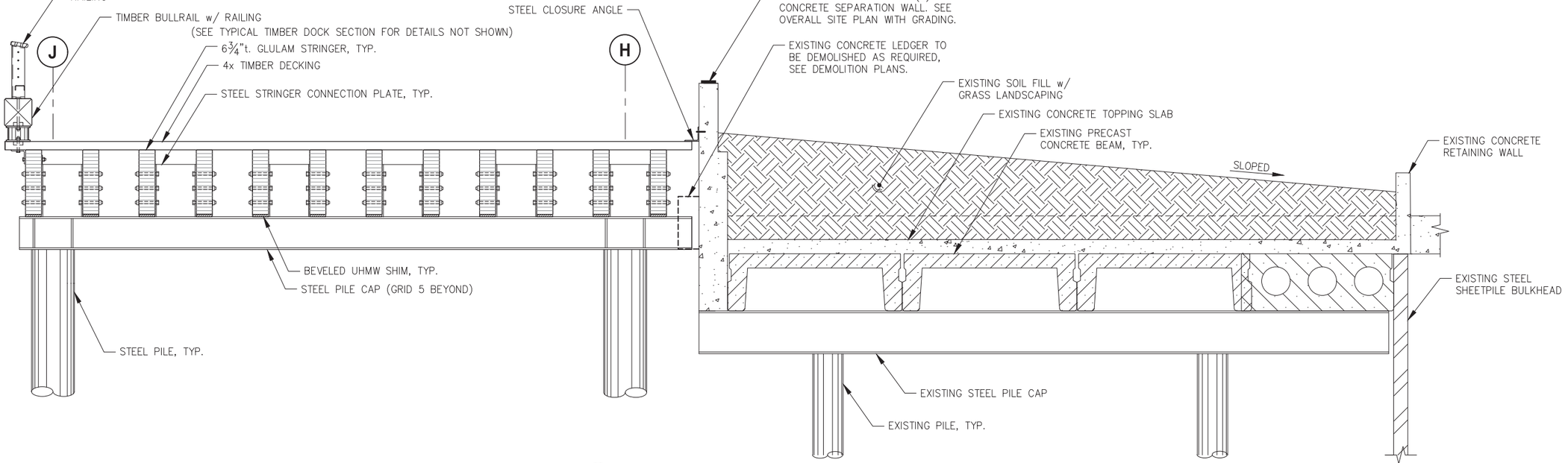
SHEET TITLE: **GENERAL SECTIONS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

G107



C / G106 SECTION - TIMBER DOCK AT NEW CONC. PANELS



D / G106 SECTION - TIMBER DOCK AT EXISTING PARK

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

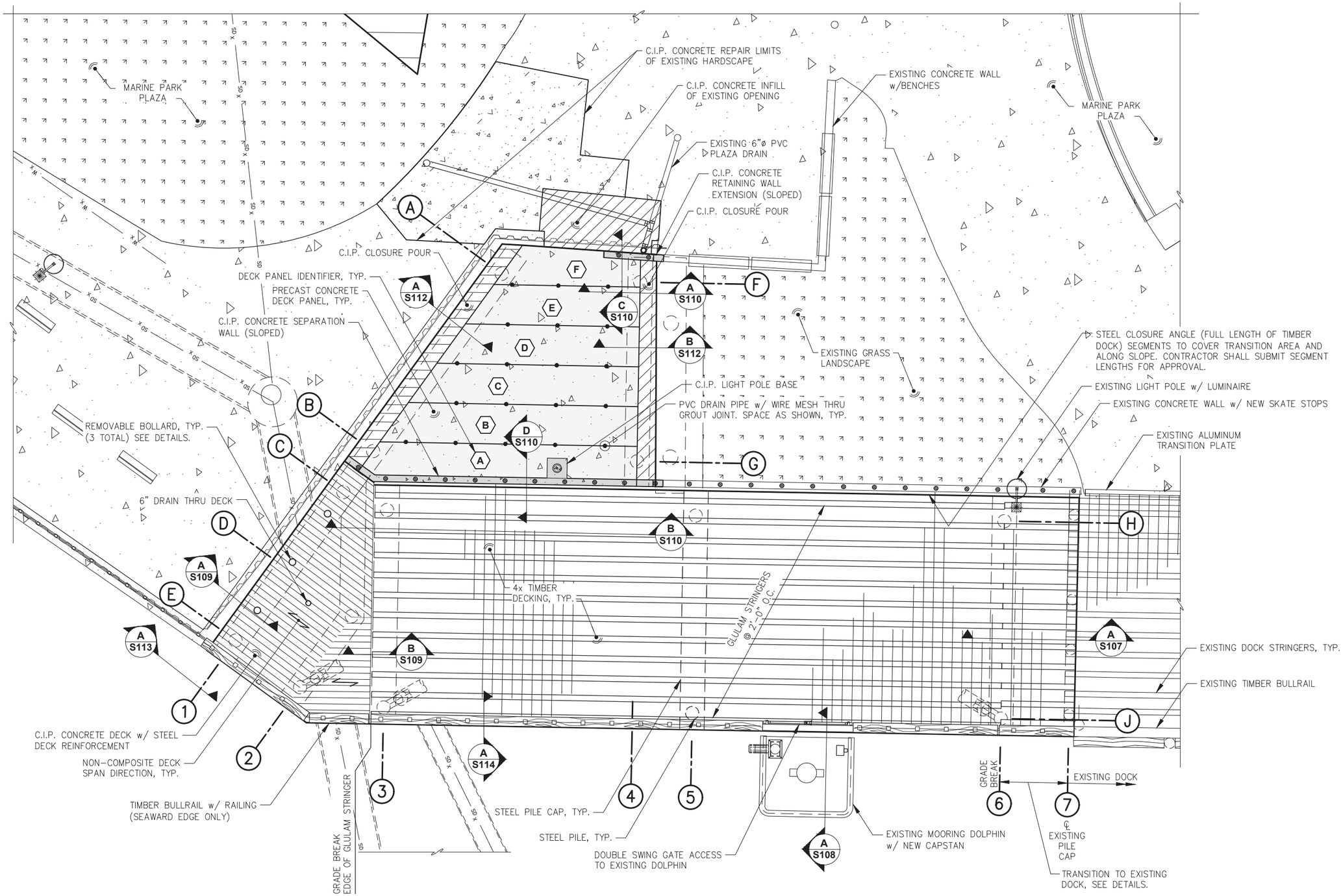
STATE OF ALASKA 49TH
John L. DeMuth
SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE: **GENERAL SECTIONS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

G108



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MDH CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: SCALE IN FEET 0 5 10 FT.

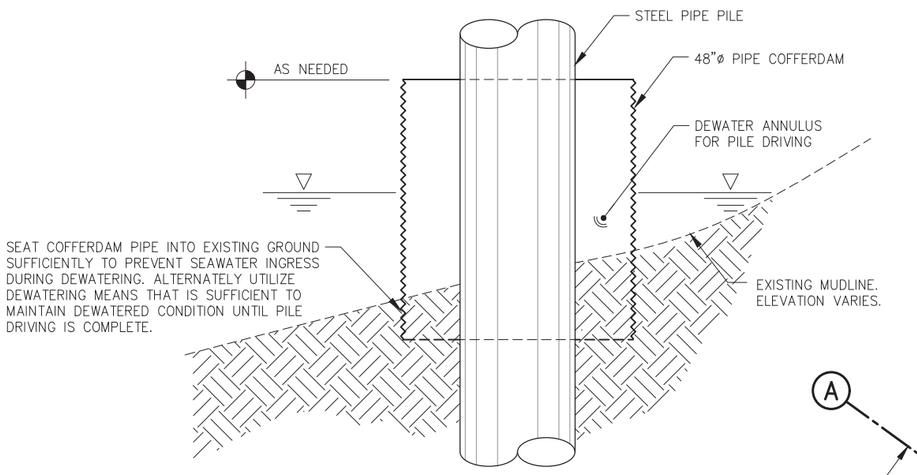
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
DECK AND FRAMING PLAN

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

S101



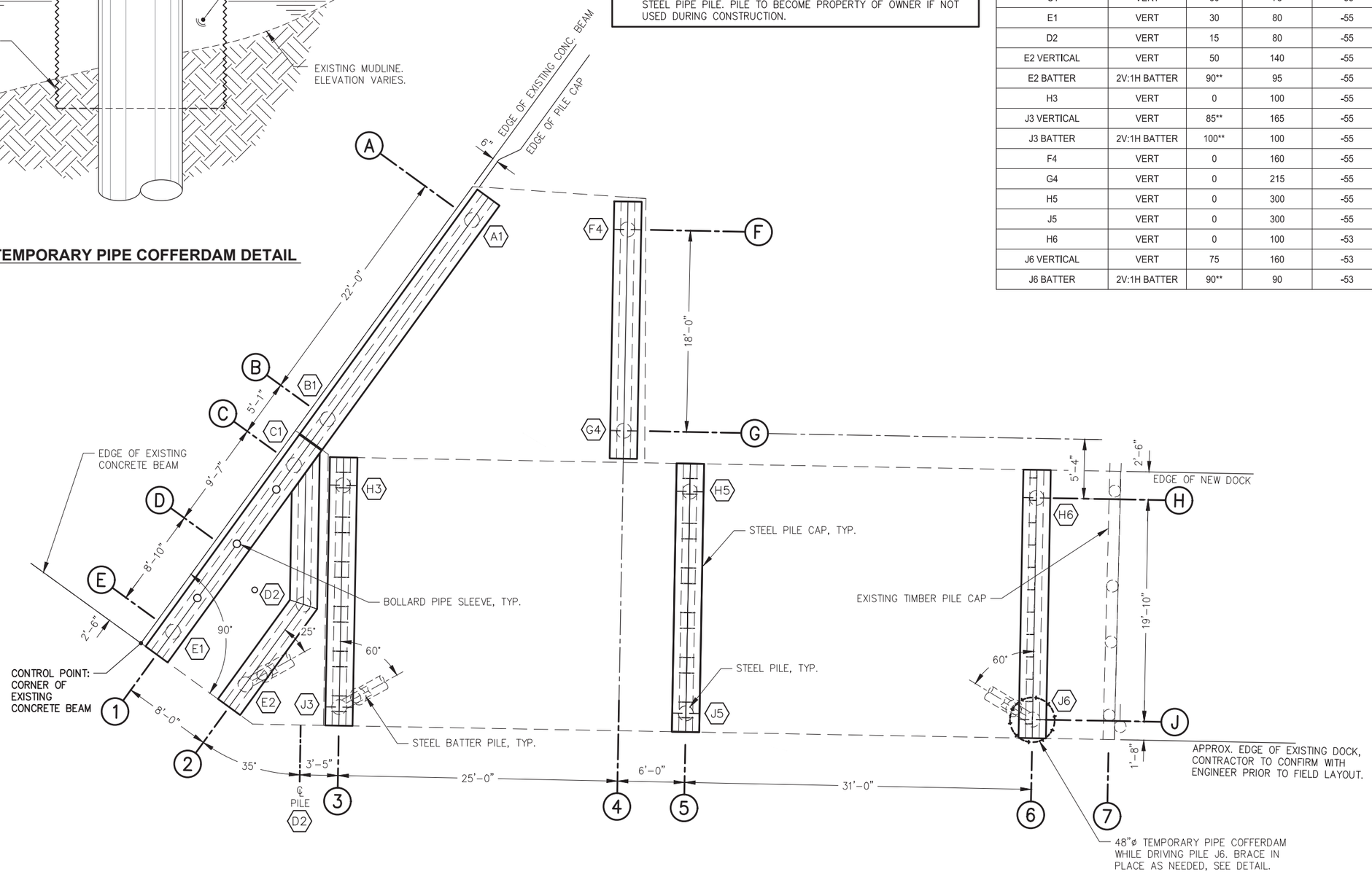
TEMPORARY PIPE COFFERDAM DETAIL

NOTE:
TO COMPLY WITH PROJECT PERMIT REQUIREMENTS, INSTALLATION OF ALL PILES SHALL BE ACCOMPLISHED UTILIZING ONE OF THE FOLLOWING MEANS/METHODS:

- USE OF VIBRATORY AND/OR IMPACT HAMMER DURING LOW TIDE SUCH THAT PILE IS OUT OF THE WATER
- USE OF TEMPORARY COFFER DAM TYPE SYSTEM (SEE DETAIL) TO ISOLATE PILE FROM WATER
- ** SPIN FIN TIP, SEE DETAILS (4 TOTAL)
- CONTRACTOR TO PROVIDE ADDITIONAL 40 FT OF 16"øx0.500t. STEEL PIPE PILE. PILE TO BECOME PROPERTY OF OWNER IF NOT USED DURING CONSTRUCTION.

PILE SCHEDULE

PILE REFERENCE AND GRID INTERSECTION	PILE ORIENTATION	DESIGN LOAD (kips)		EST. PILE TIP ELEVATION (feet)	PILE SUPPLY LENGTH (feet)	APPROX. MEAN LOW ELEVATION
		TENSION	COMPRESSION			
A1	VERT	0	135	-50	80	+18
B1	VERT	0	215	-50	80	+13
C1	VERT	30	75	-55	80	+11
E1	VERT	30	80	-55	80	+8
D2	VERT	15	80	-55	80	+8
E2 VERTICAL	VERT	50	140	-55	80	+6
E2 BATTER	2V:1H BATTER	90**	95	-55	90	+10
H3	VERT	0	100	-55	80	+11
J3 VERTICAL	VERT	85**	165	-55	80	+4
J3 BATTER	2V:1H BATTER	100**	100	-55	90	+8
F4	VERT	0	160	-55	80	+17
G4	VERT	0	215	-55	80	+13
H5	VERT	0	300	-55	80	+10
J5	VERT	0	300	-55	80	+1
H6	VERT	0	100	-53	80	+4
J6 VERTICAL	VERT	75	160	-53	80	-6
J6 BATTER	2V:1H BATTER	90**	90	-53	90	+1



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: SCALE IN FEET 0 5 10 FT.

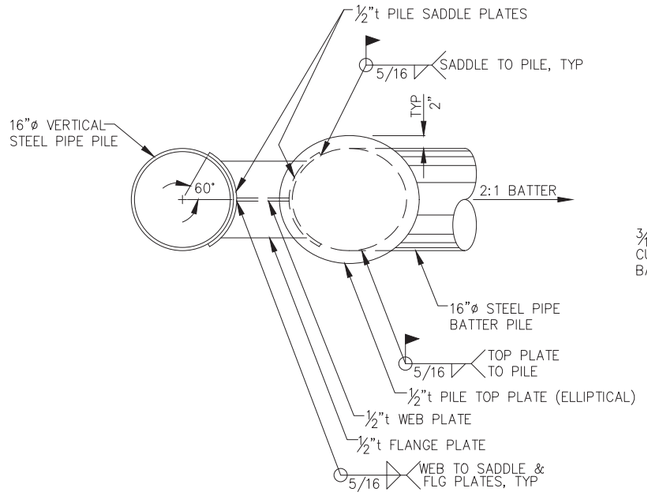
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

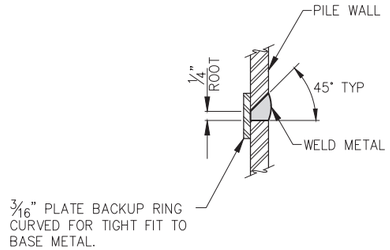
SHEET TITLE:
PILE PLAN AND SCHEDULE

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

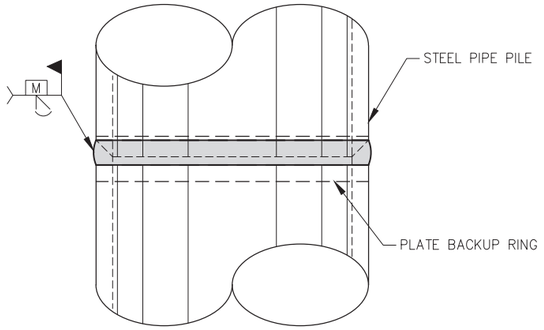
S102



BATTER PILE CONNECTION PLAN



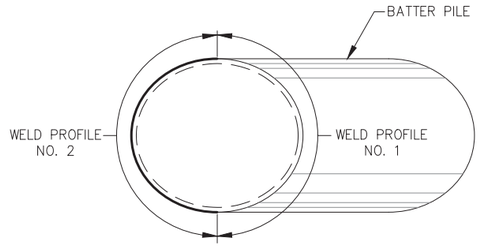
TYPICAL SECTION



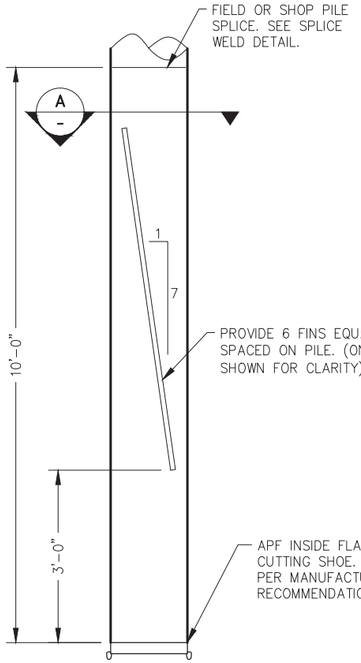
ELEVATION

TYPICAL PILE SPLICE WELD

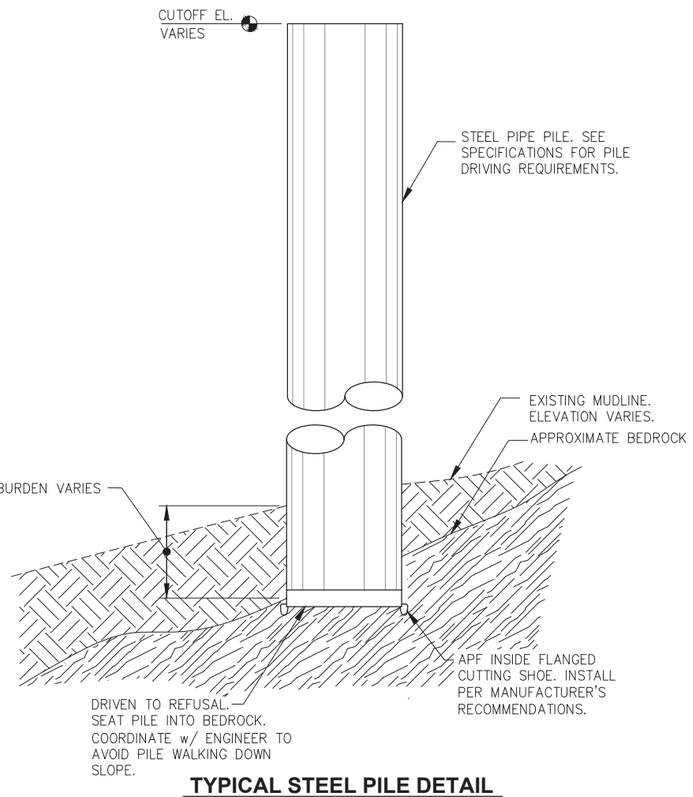
(TYPICAL FOR ALL PIPE PILE SPLICES)



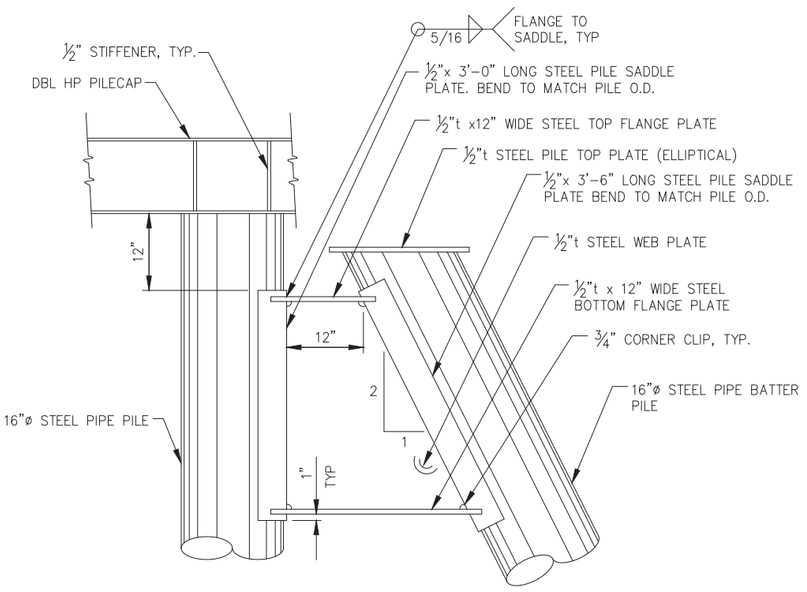
WELD PROFILES



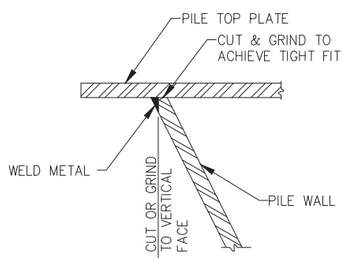
SPIN FIN TIP - ELEVATION



TYPICAL STEEL PILE DETAIL

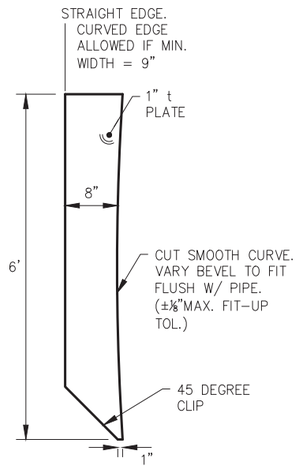


BATTER PILE WELDMENT ELEVATION

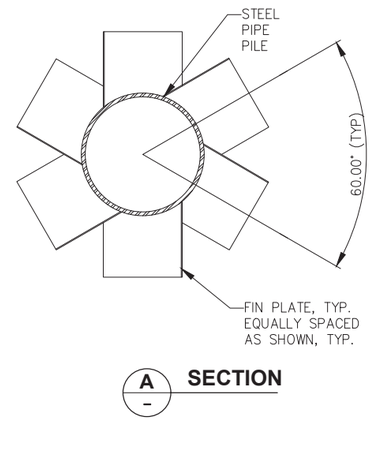


WELD PROFILE NO. 1

WELD PROFILE NO. 2



SPIN FIN



A / - SECTION

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

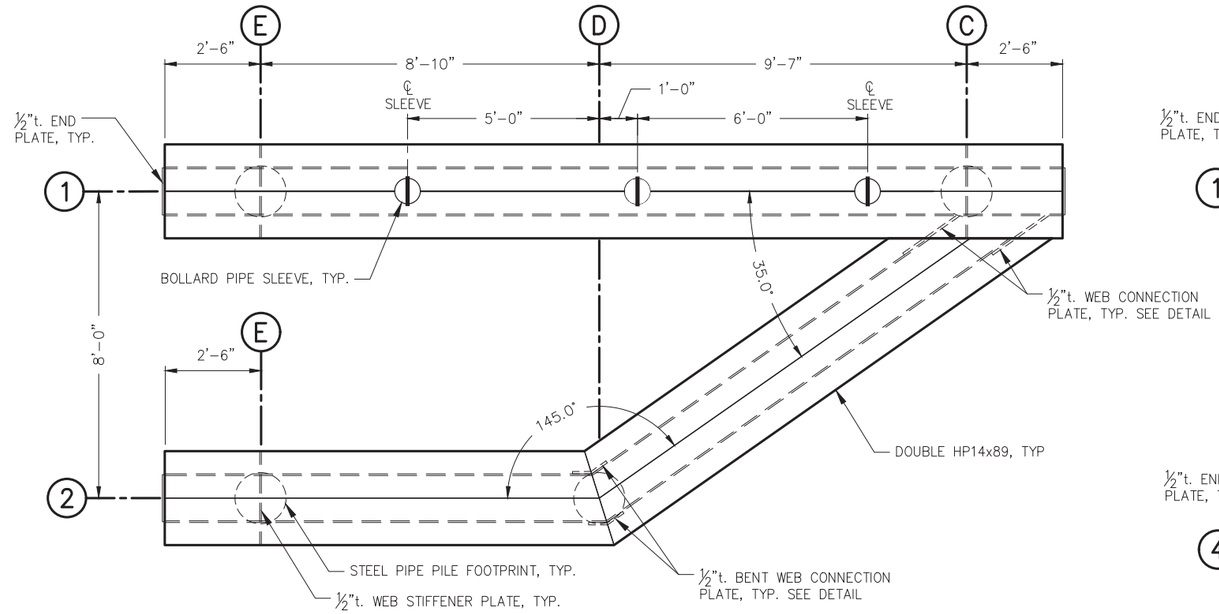
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

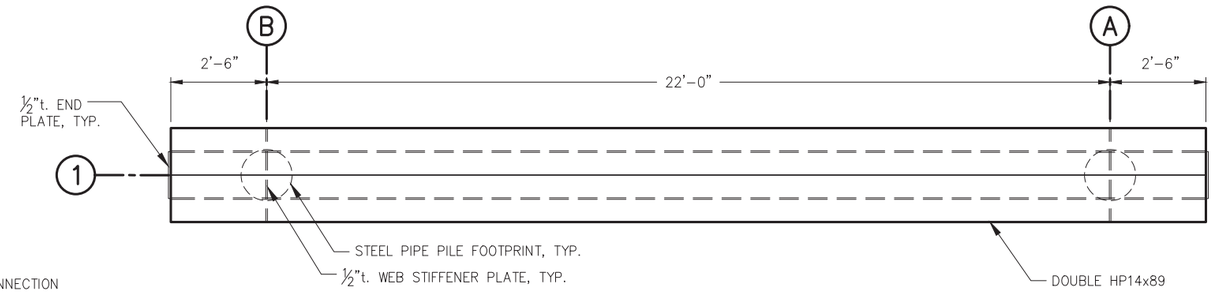
SHEET TITLE: **PILE DETAILS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S103

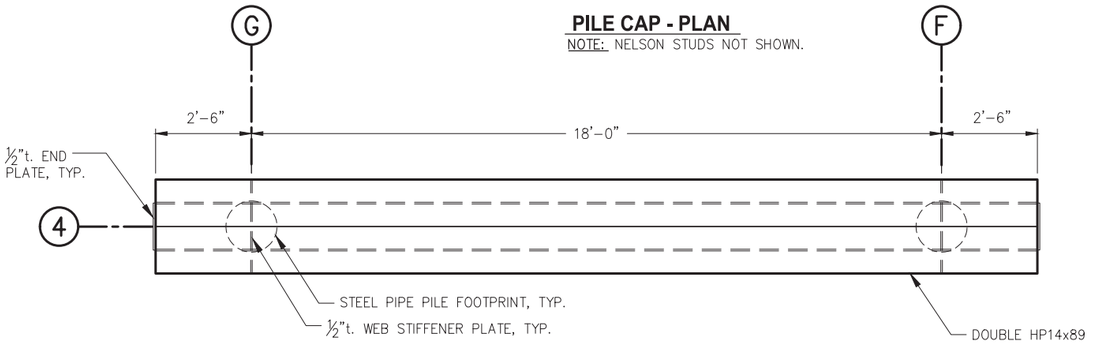


PILE CAP - PLAN



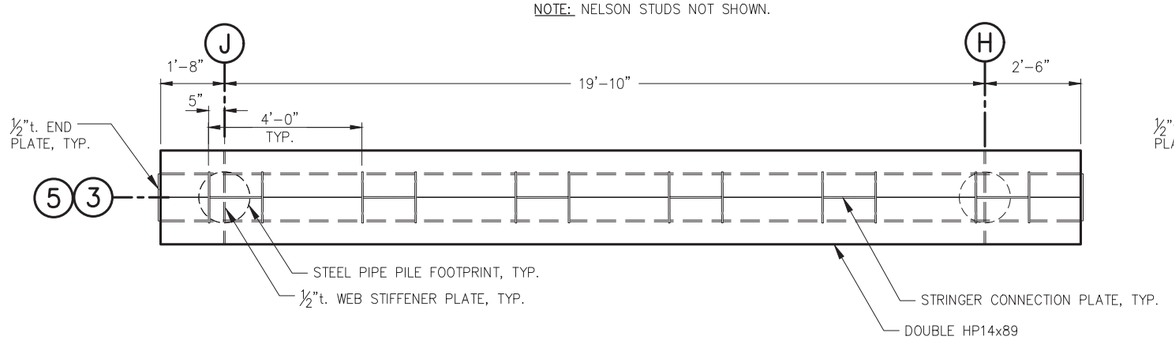
PILE CAP - PLAN

NOTE: NELSON STUDS NOT SHOWN.



PILE CAP - PLAN

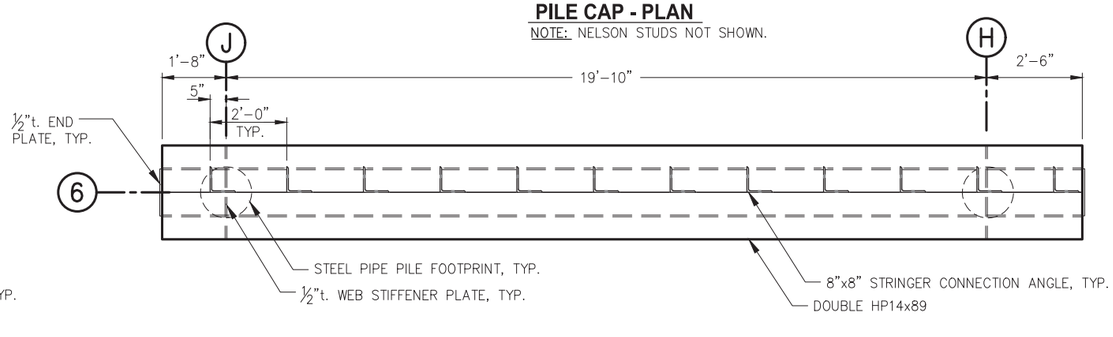
NOTE: NELSON STUDS NOT SHOWN.



PILE CAP - PLAN

PILE CAP - PLAN

NOTE: NELSON STUDS NOT SHOWN.



PILE CAP - PLAN

NOTES:

- ALL PLATE DIMENSIONS ARE TO THE OUTSIDE OF SIDE PLATES, UNLESS OTHERWISE NOTED.
- ALL PILE CAPS DBL HP14x89, UNLESS OTHERWISE NOTED.
- ALL WELDMENT WELDS SHALL BE 5/16" FILLET, ALL AROUND UNLESS OTHERWISE NOTED.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

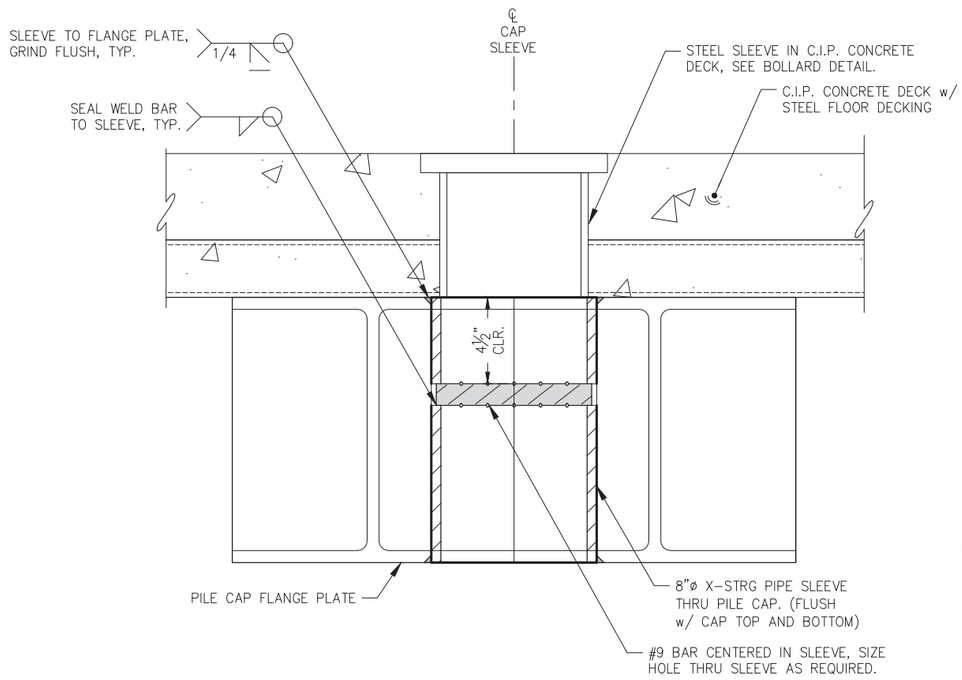
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE: **PILE CAP DETAILS**

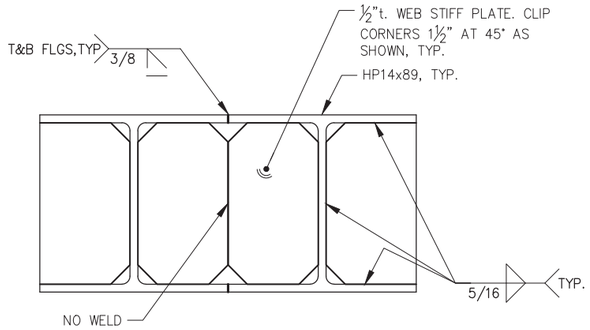
PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S104

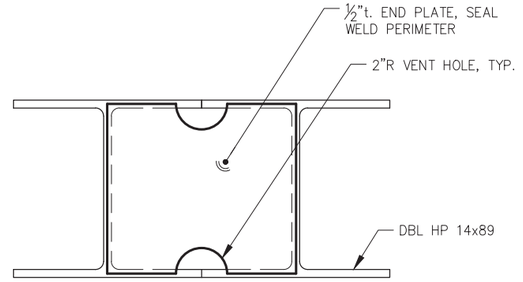


BOLLARD PIPE SLEEVE DETAIL

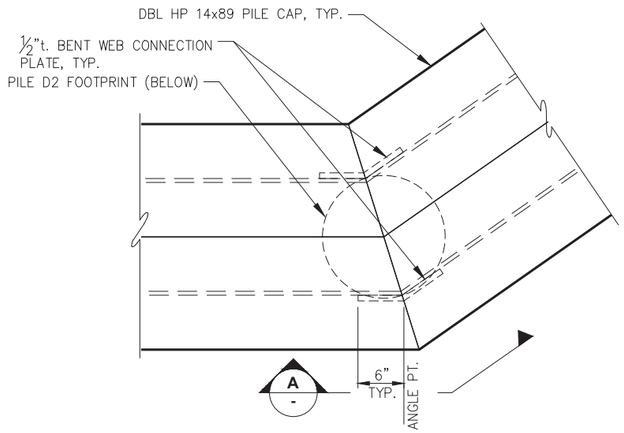
(PILE CAP GRID 1 ONLY)



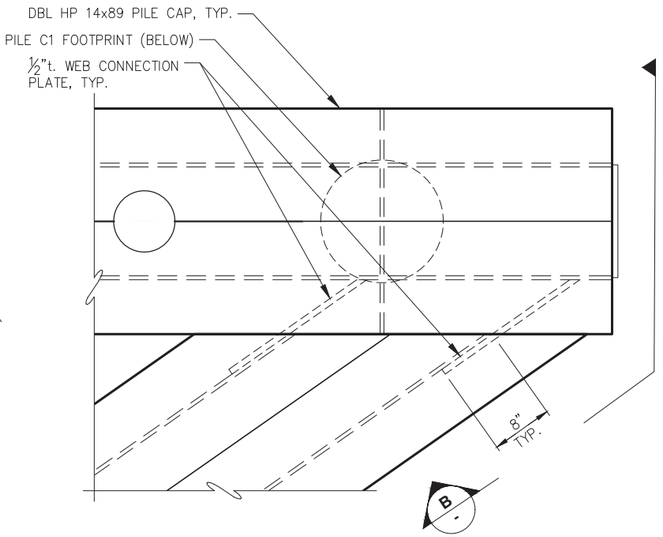
TYPICAL PILE CAP SECTION



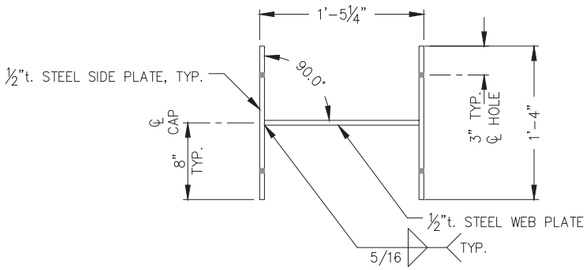
END PLATE DETAIL



GRID 2-D PILE CAP SPLICE - PLAN

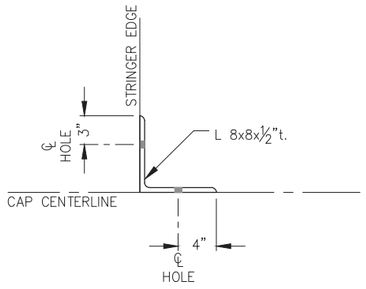


GRID 1-C PILE CAP SPLICE - PLAN



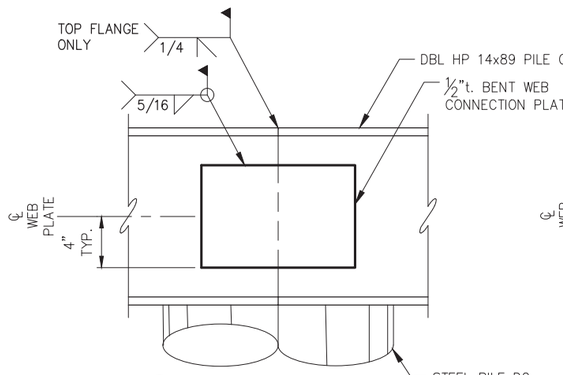
STRINGER CONNECTION PLATE

(PILE CAP 3 AND 5)

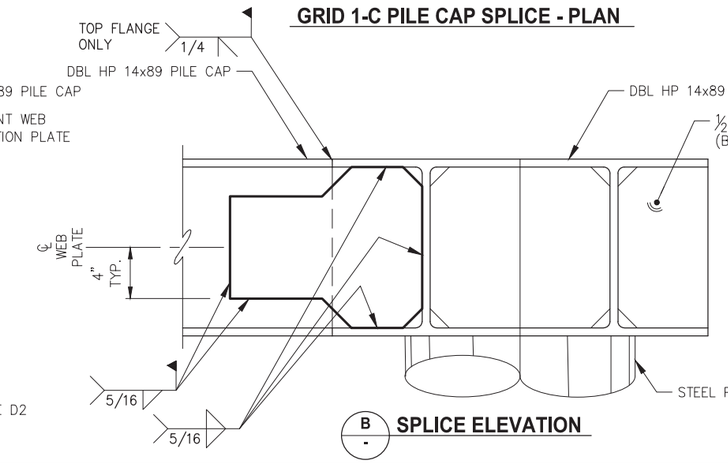


STRINGER CONNECTION ANGLE

(PILE CAP 6 ONLY)



A - SPLICE ELEVATION



B - SPLICE ELEVATION

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

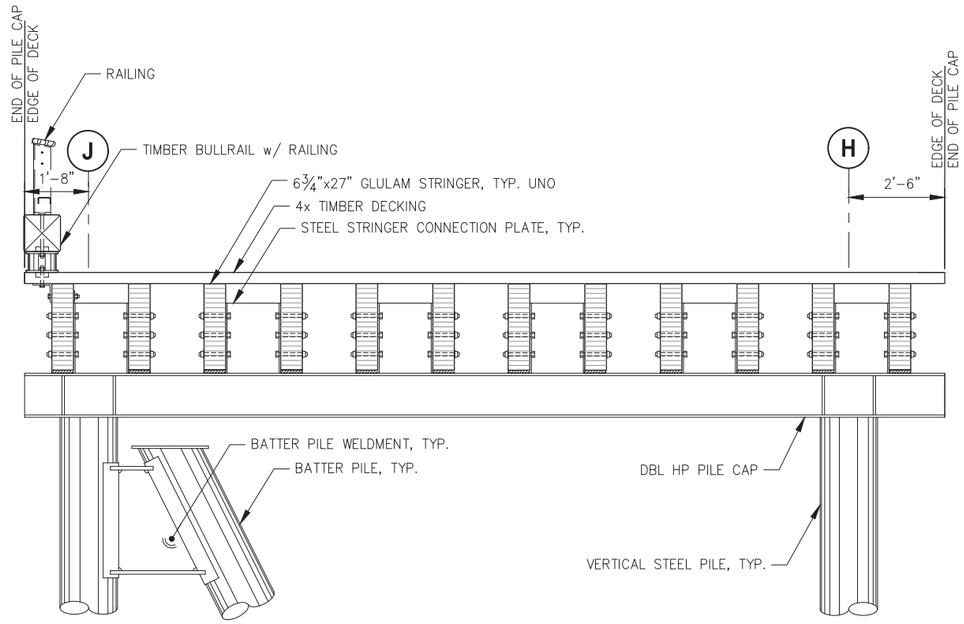
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

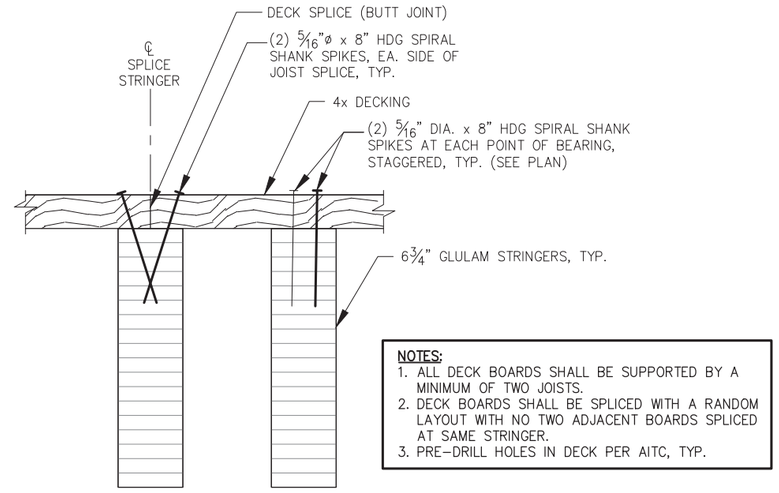
SHEET TITLE: **PILE CAP DETAILS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S105

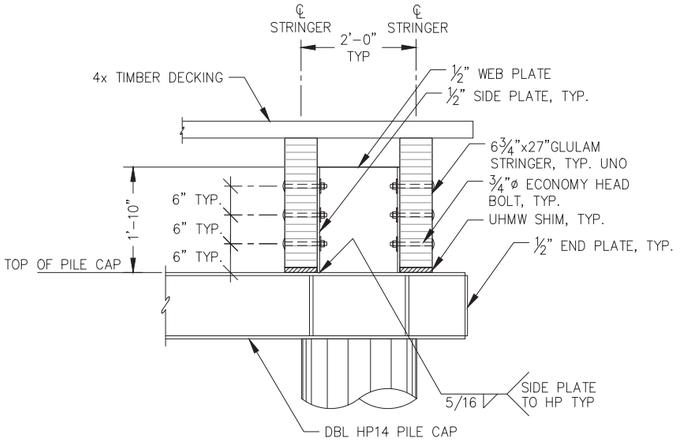


TYPICAL TIMBER DOCK SECTION



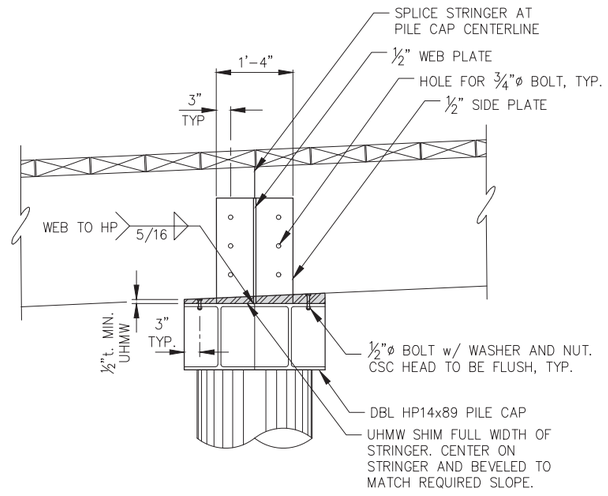
NOTES:
1. ALL DECK BOARDS SHALL BE SUPPORTED BY A MINIMUM OF TWO JOISTS.
2. DECK BOARDS SHALL BE SPLICED WITH A RANDOM LAYOUT WITH NO TWO ADJACENT BOARDS SPLICED AT SAME STRINGER.
3. PRE-DRILL HOLES IN DECK PER AITC, TYP.

TYPICAL DECK TO STRINGER CONNECTION



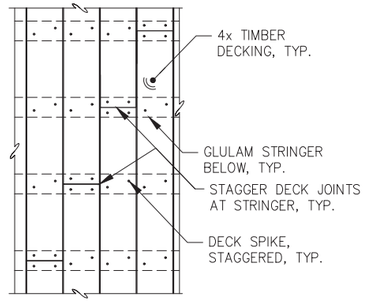
STRINGER CONNECTION PLATE - ELEVATION

NOTE:
STRINGER TO BE FIELD DRILLED/TREATED FOR BOLT HOLES.

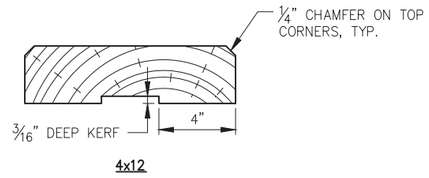


STRINGER CONNECTION PLATE - SECTION

NOTE:
STRINGER TO BE FIELD DRILLED/TREATED FOR BOLT HOLES.



TYPICAL DECK SPLICE STAGGER - PLAN



4x12

DECKING PROFILE

NOTES:
1. SEE SPECIFICATIONS FOR COMPLETE DECKING REQUIREMENTS.
2. NO DECKING SHALL BE INCORPORATED INTO THE WORK THAT FALLS OUTSIDE OF THE SPECIFIED GRADING.
3. NO DECKING WITH WANE ON THE TOP OF SURFACE SHALL BE INCORPORATED IN THE WORK.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

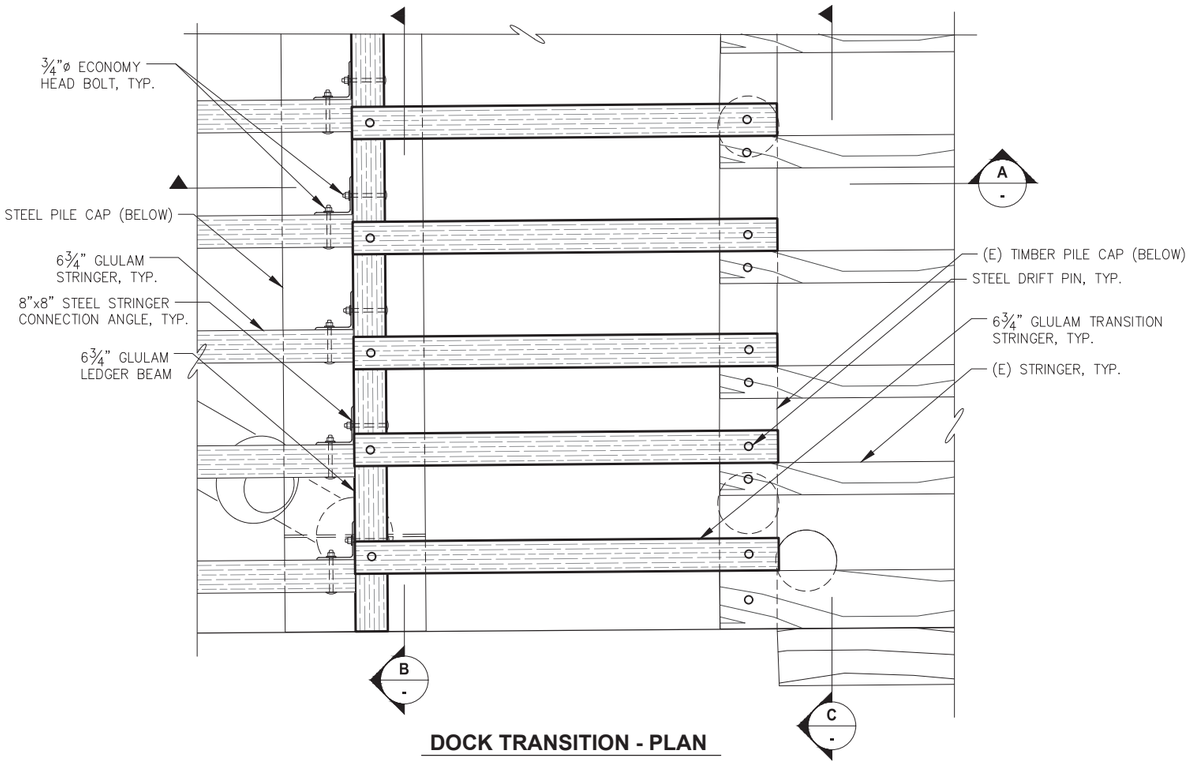
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

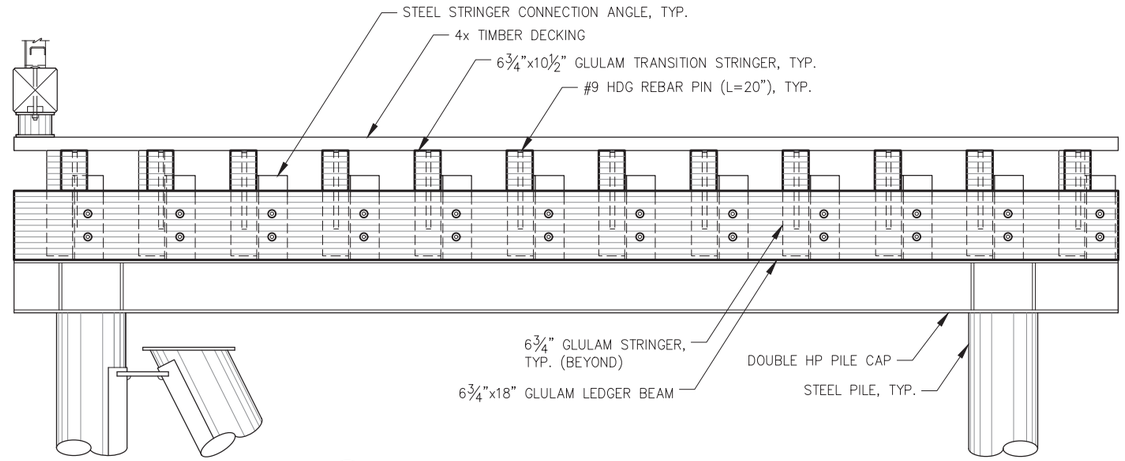
SHEET TITLE:
TIMBER DOCK SECTION AND DETAILS

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

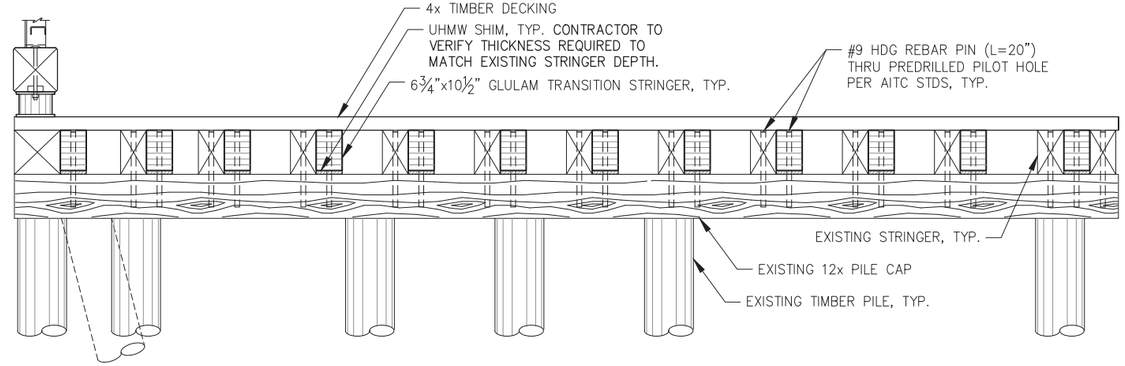
S106



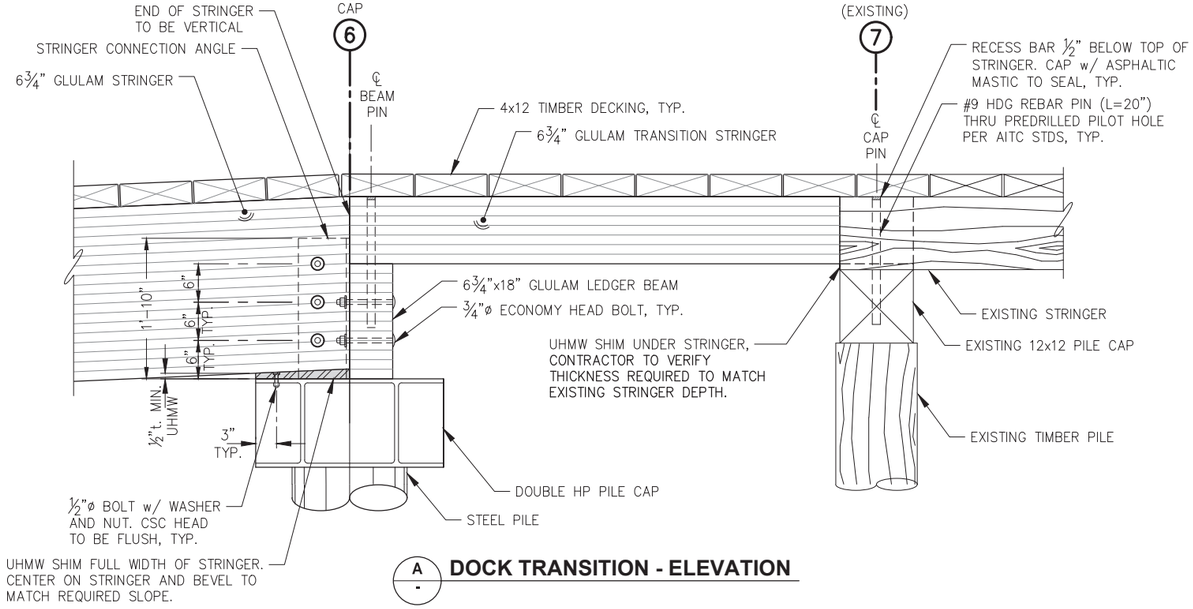
DOCK TRANSITION - PLAN



B - GRID 6 - GLULAM LEDGER BEAM



C - GRID 7 - EXISTING TIMBER PILE CAP



A - DOCK TRANSITION - ELEVATION

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN
DATE: 07/19/2021

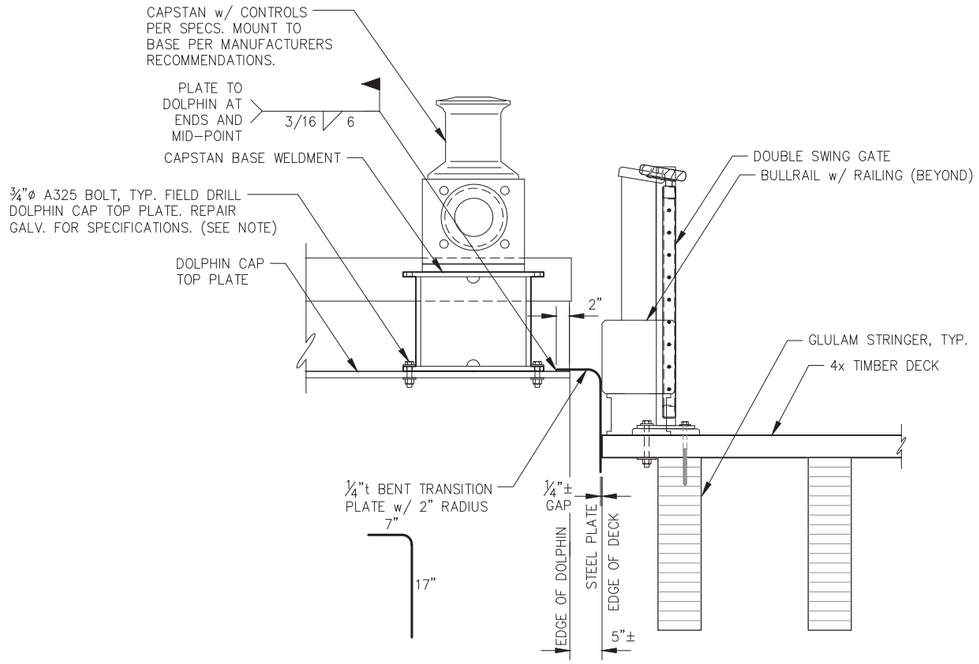
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

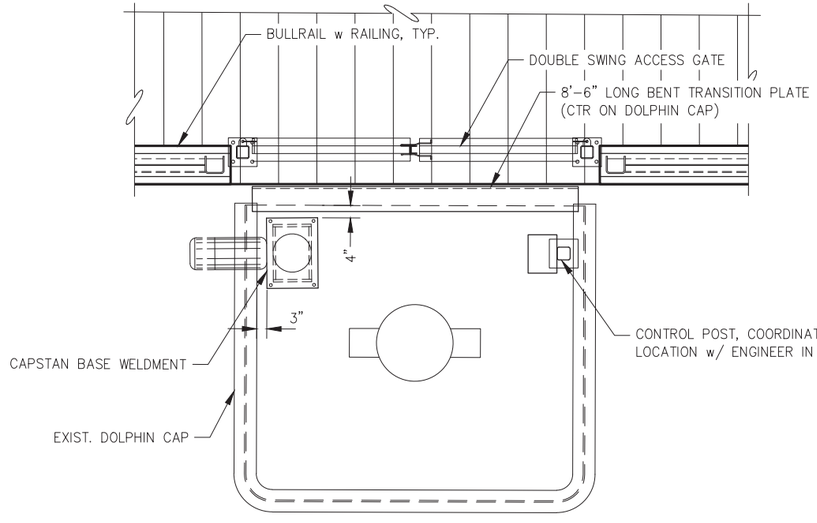
SHEET TITLE:
TIMBER DOCK TRANSITION TO EXISTING DOCK

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

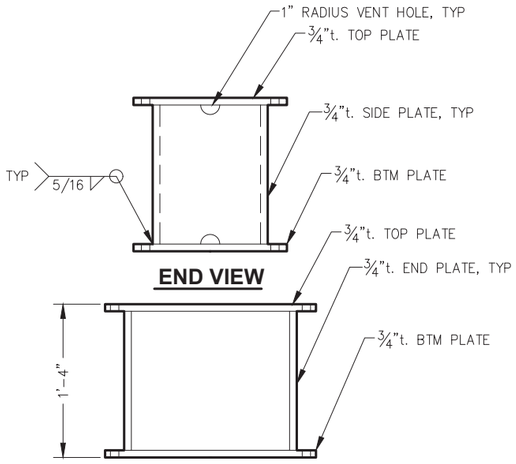
S107

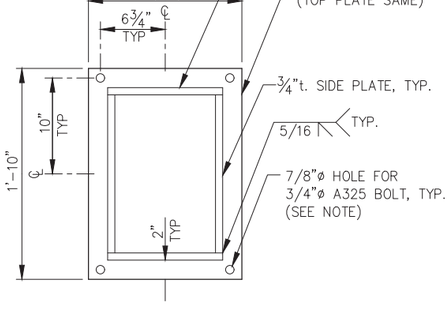


A TIMBER DOCK AT EXISTING DOLPHIN



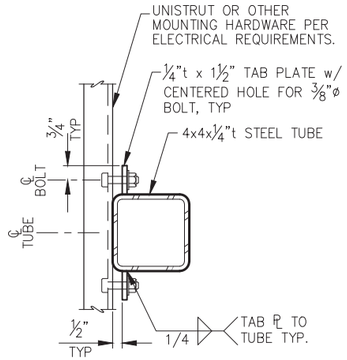
EXISTING DOLPHIN - MODIFICATION PLAN





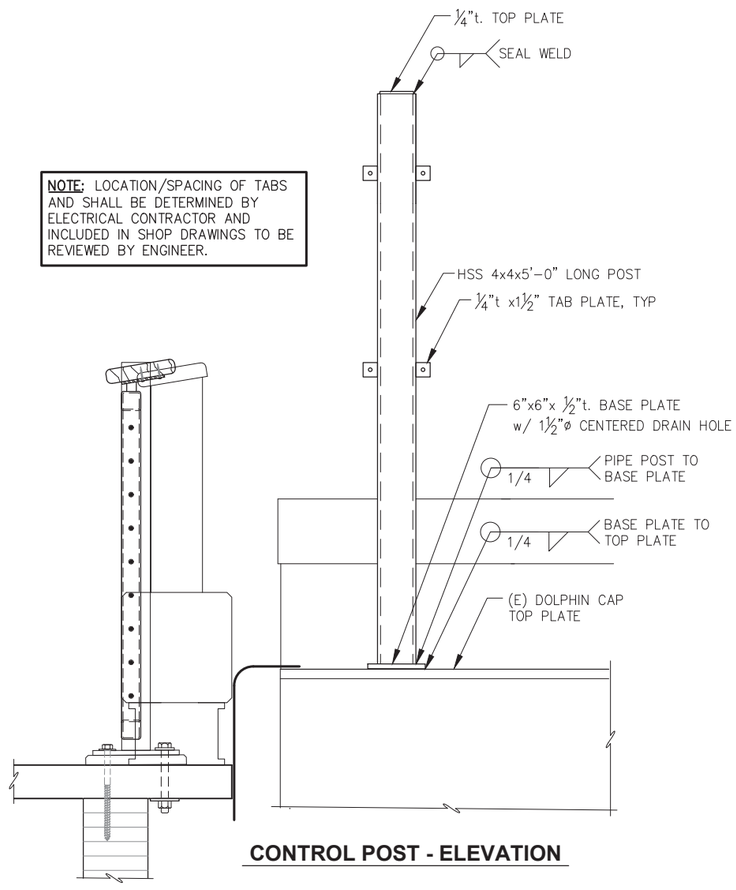
CAPSTAN BASE - PLAN

NOTE: CONTRACTOR MAY ALTERNATIVELY CHOOSE TO FIELD WELD CAPSTAN BASE TO EXISTING DOLPHIN TOP PLATE w/ 5/16" FILLET ALL AROUND. REPAIR GALV. PER SPECIFICATIONS.



B SECTION

NOTE: LOCATION/SPACING OF TABS AND SHALL BE DETERMINED BY ELECTRICAL CONTRACTOR AND INCLUDED IN SHOP DRAWINGS TO BE REVIEWED BY ENGINEER.



CONTROL POST - ELEVATION

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: JLD CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: NTS

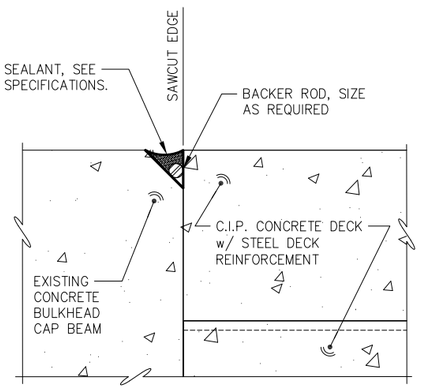
STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

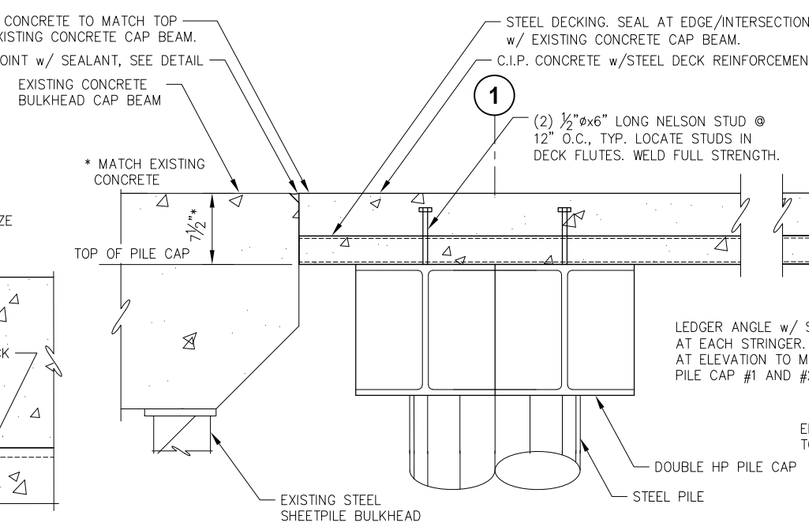
SHEET TITLE:
EXISTING MOORING DOLPHIN MODIFICATIONS

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S108

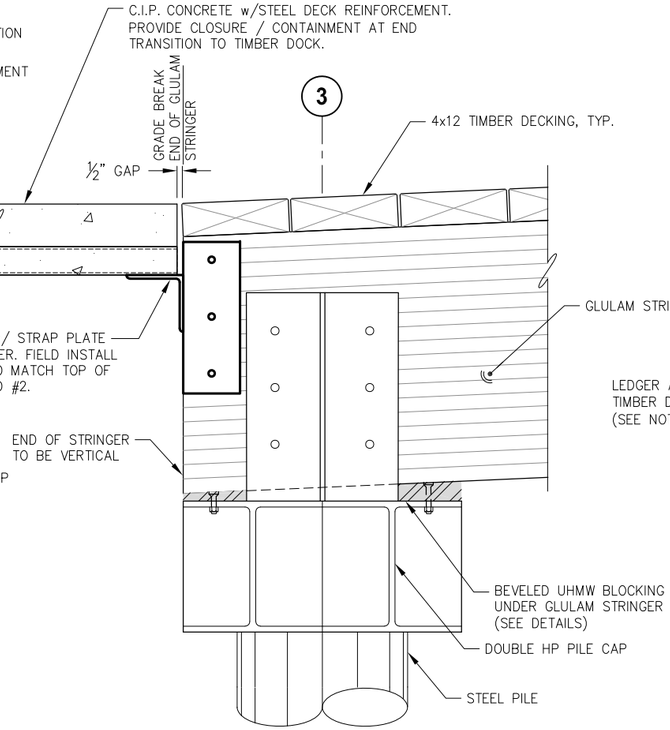


CONCRETE JOINT DETAIL

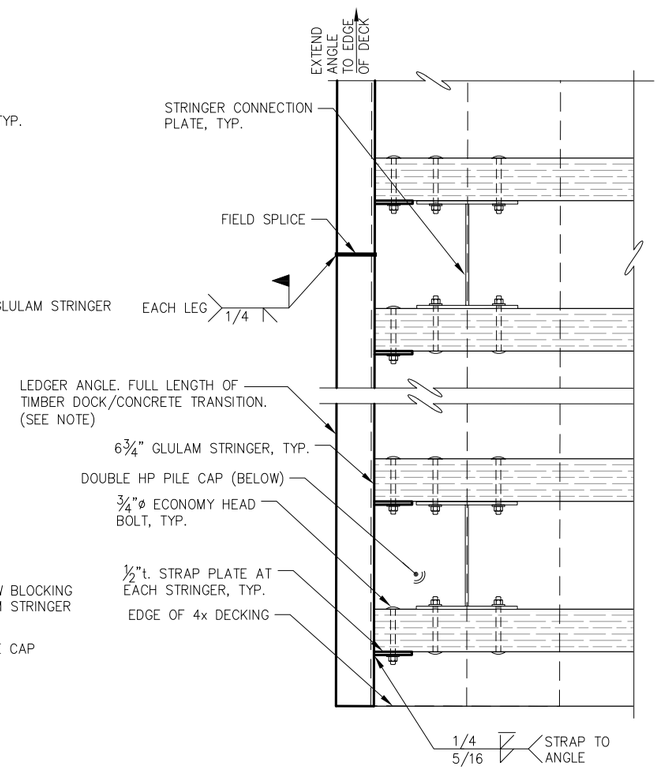


C.I.P. CONCRETE AT EXISTING BULKHEAD

NOTE: NELSON STUD LAYOUT SIMILAR FOR GRID 2 PILE CAP.

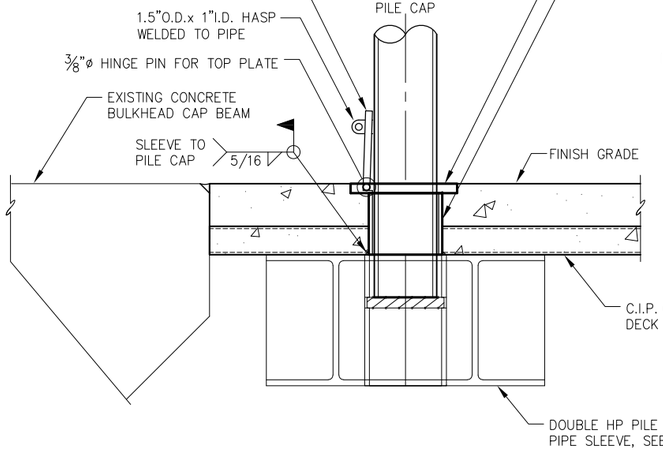


B CONCRETE DECK AT TIMBER DOCK

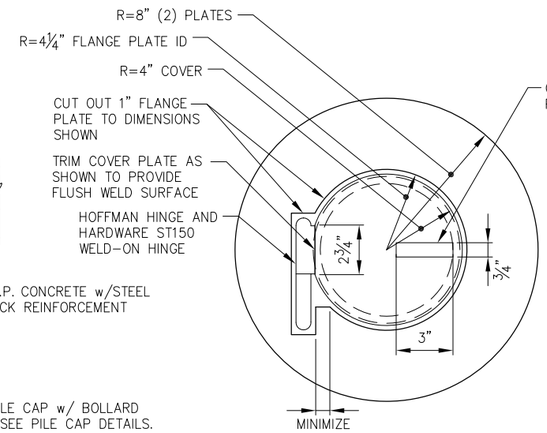


LEDGER ANGLE PLAN DETAIL

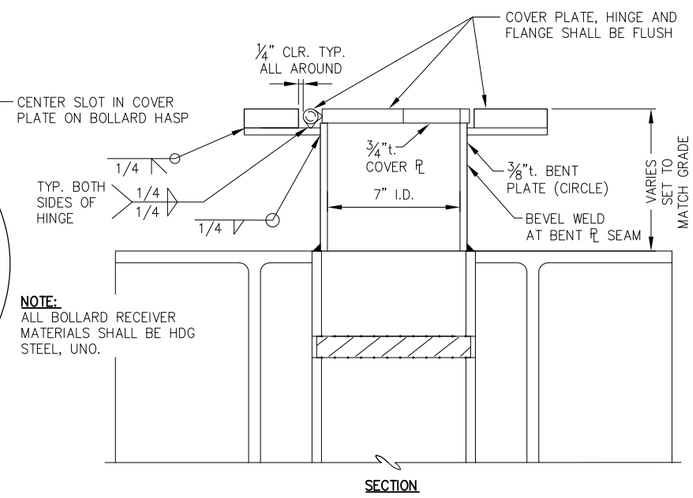
NOTE:
** LEDGER ANGLE MAY BE SUPPLIED IN (3) SEGMENTS TO BE FIELD SPLICED.



A REMOVEABLE BOLLARD DETAIL

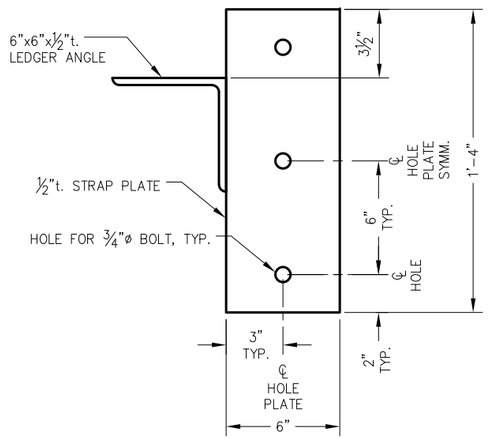


PLAN



SECTION

REMOVABLE BOLLARD RECEIVER DETAIL



LEDGER STRAP PLATE DETAIL

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MS CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

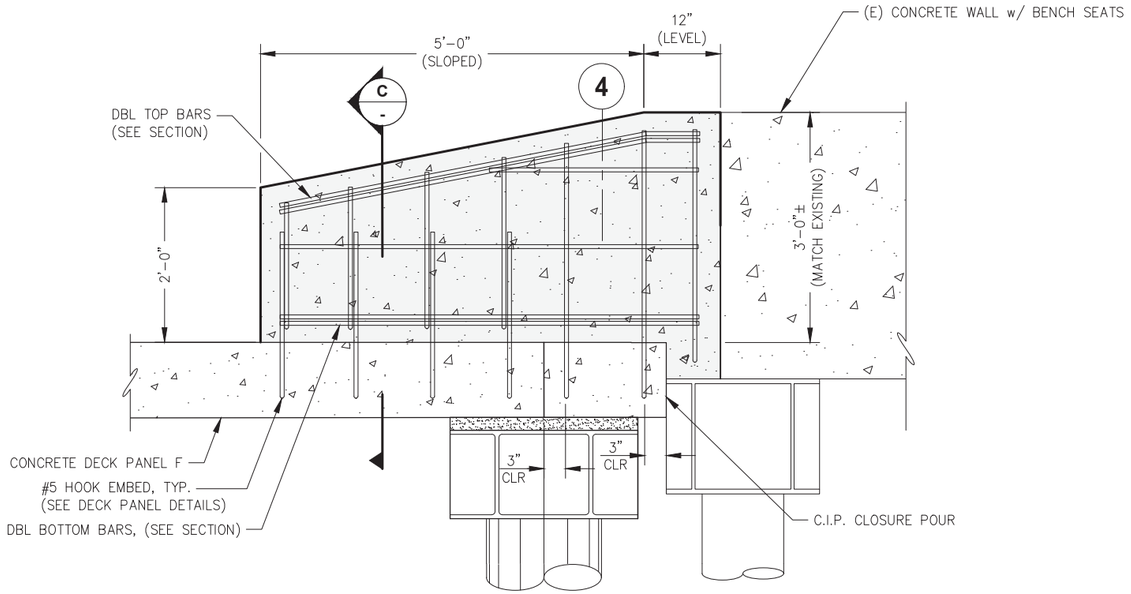
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
DOCK CONNECTION DETAILS

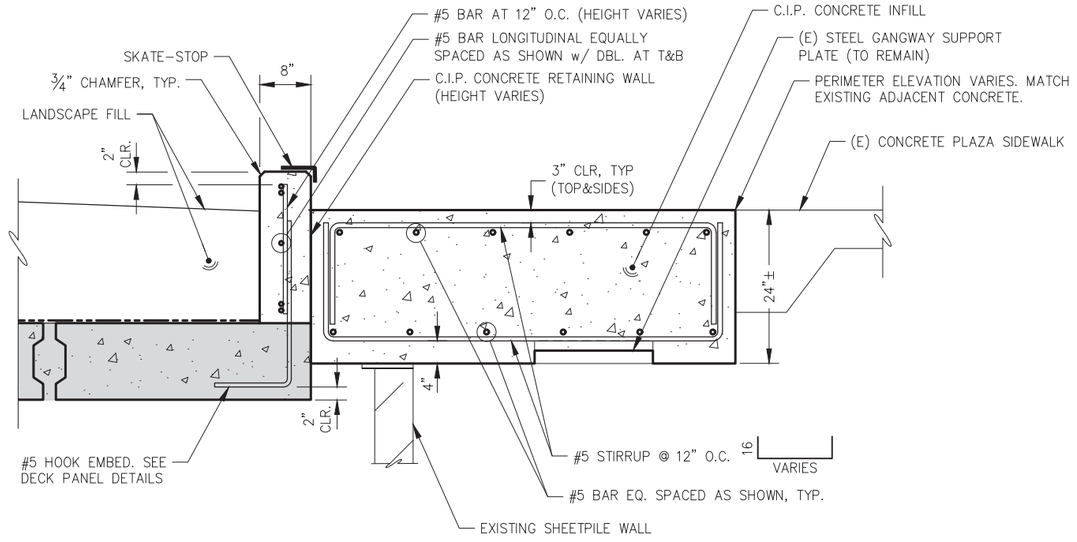
PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

S109



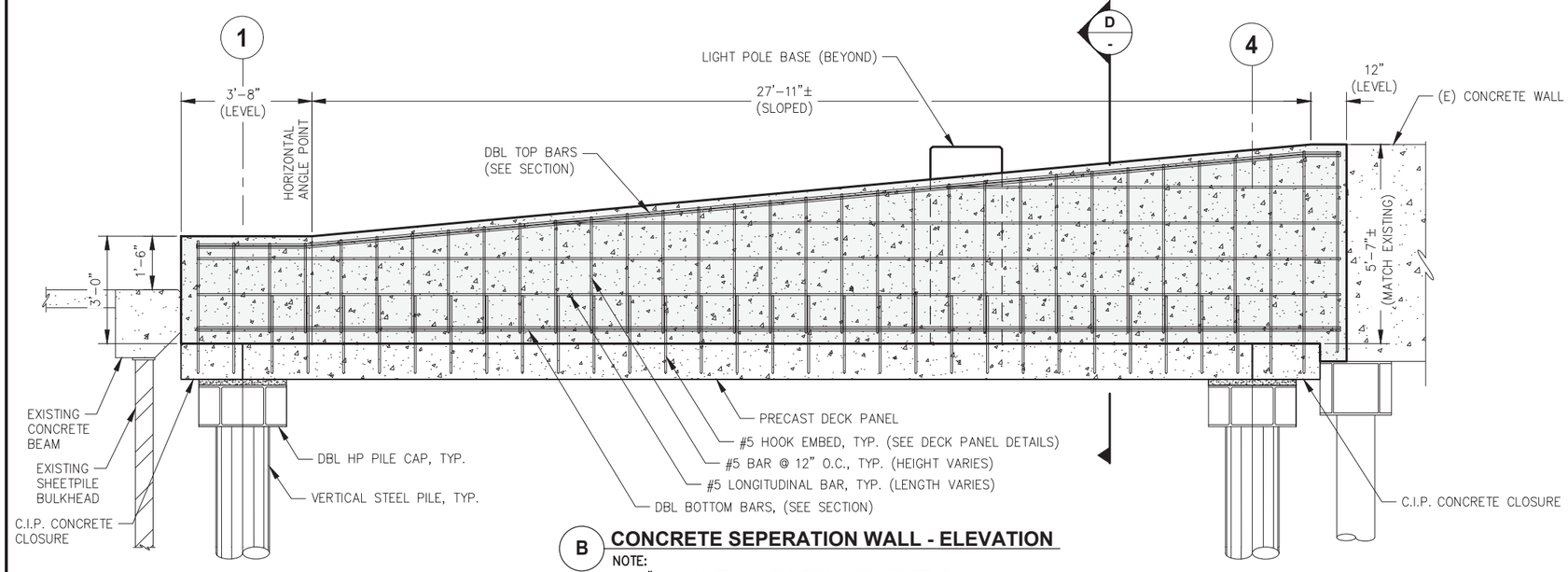
A CONCRETE RETAINING WALL - ELEVATION

NOTE:
1. 2" MIN. COVER, UNO FOR FIELD INSTALLED REBAR.
2. SKATE STOPS NOT SHOWN, THIS VIEW, FOR CLARITY.



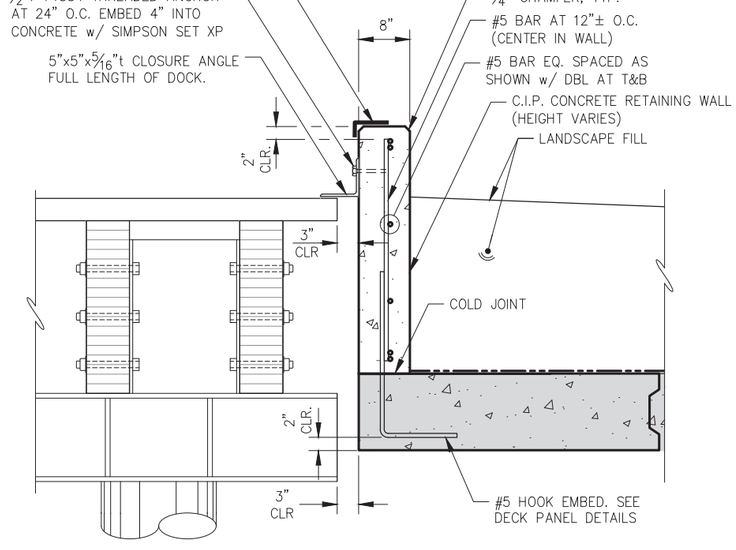
C CONCRETE WALL AND PLAZA INFILL - SECTION

NOTE: CONTRACTOR TO PROVIDE FORMWORK AS REQUIRED BETWEEN SHEETPILE WALL AND PRECAST DECK PANEL FOR PLACEMENT OF INFILL CONCRETE.



B CONCRETE SEPERATION WALL - ELEVATION

NOTE:
1. 2" MIN. COVER UNO FOR FIELD INSTALLED REBAR.
2. SKATE STOPS NOT SHOWN, THIS VIEW, FOR CLARITY.



D CONCRETE WALL - SECTION

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MDH CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

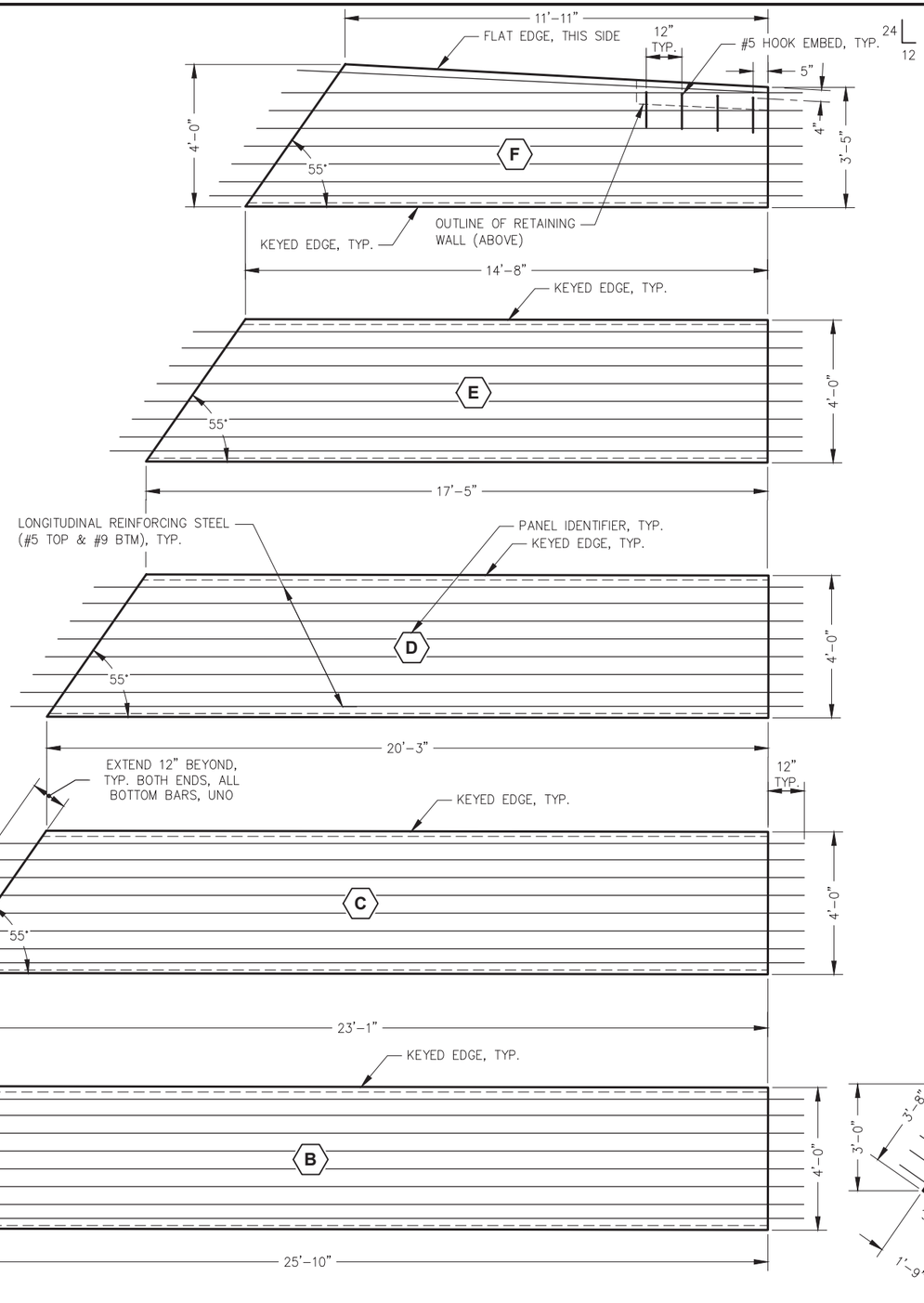
STATE OF ALASKA 49TH
John L. DeMuth
SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

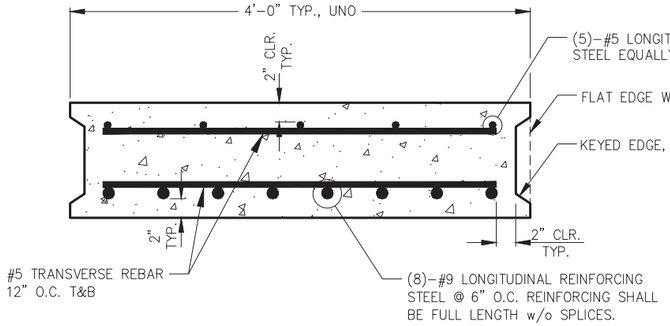
CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
CONCRETE WALL DETAILS

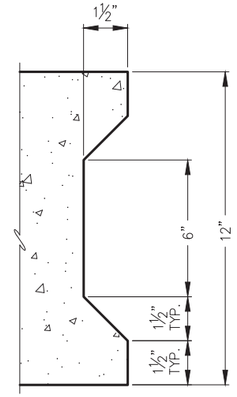
PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S110





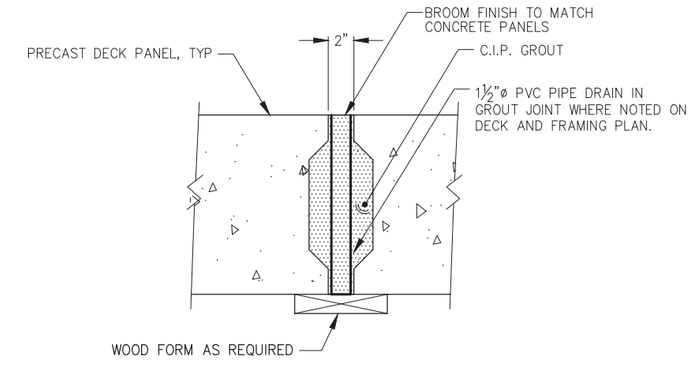
TYPICAL DECK PANEL TRANSVERSE SECTION



KEYED EDGE

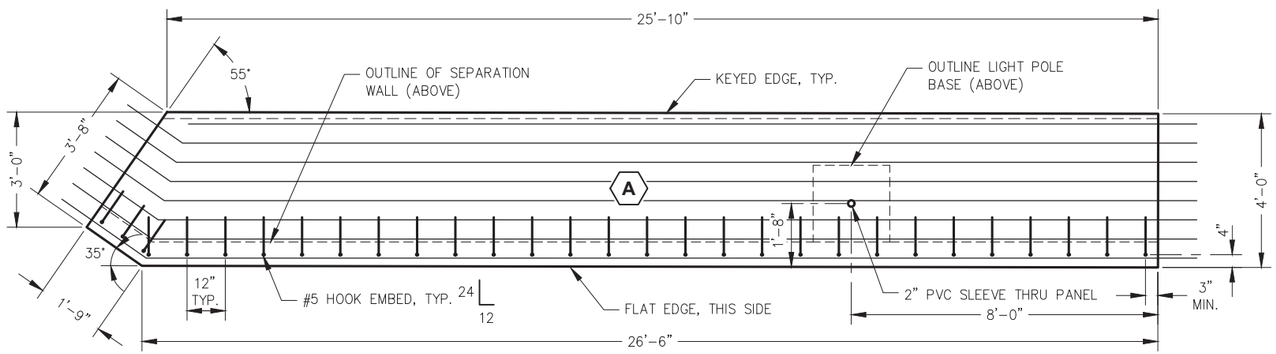
DECK PANEL NOTES:

1. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE F'_c = 6,000 PSI
2. ENTRAINED AIR SHALL BE BETWEEN 4%-7% AT TIME OF PLACEMENT.
3. SLUMP SHALL BE 3" BEFORE ADDING WATER REDUCING AGENTS.
4. PANELS TO HAVE LONGITUDINAL BROOM FINISH. COORDINATE BROOM FINISH PRIOR TO CASTING.
5. 2" MIN. COVER, UNO.
6. ALL LONGITUDINAL REINFORCING STEEL SHALL HAVE STANDARD HOOK WERE PROTRUDING FROM CONCRETE PANEL.
7. TRAVERSE REINFORCEMENT NOT SHOWN FOR CLARITY.



TYPICAL SHEAR KEY JOINT SECTION

NOTE:
SUPPORT FOR ANY FORM WORK SHALL NOT USE METHODS THAT DAMAGE PANELS, INCLUDING NAILING OR SCREWING TO PANELS. REMOVE AFTER GROUT SETS.



CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MDH CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

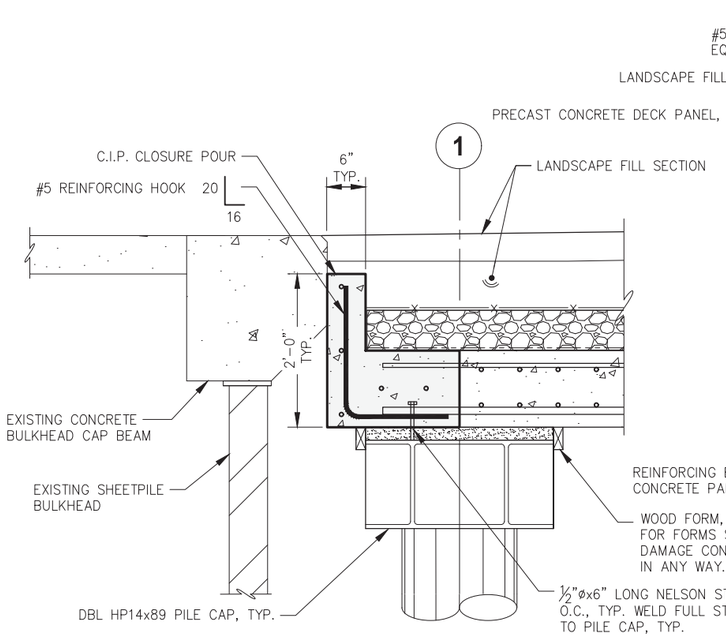
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

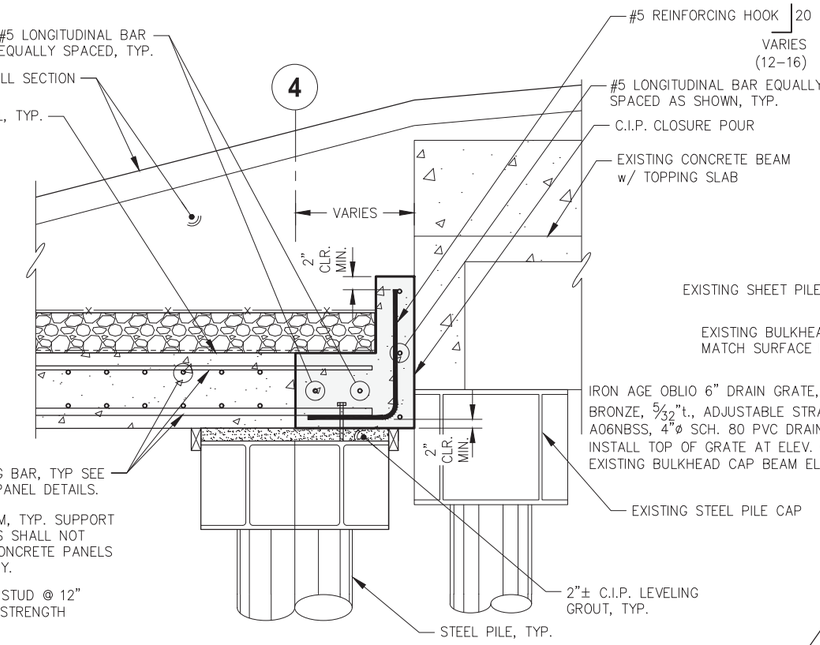
SHEET TITLE:
CONCRETE DECK PANEL DETAILS

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

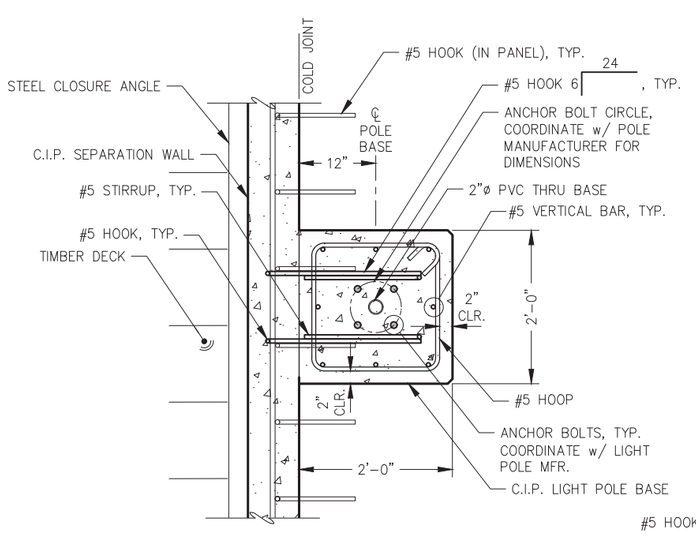
S111



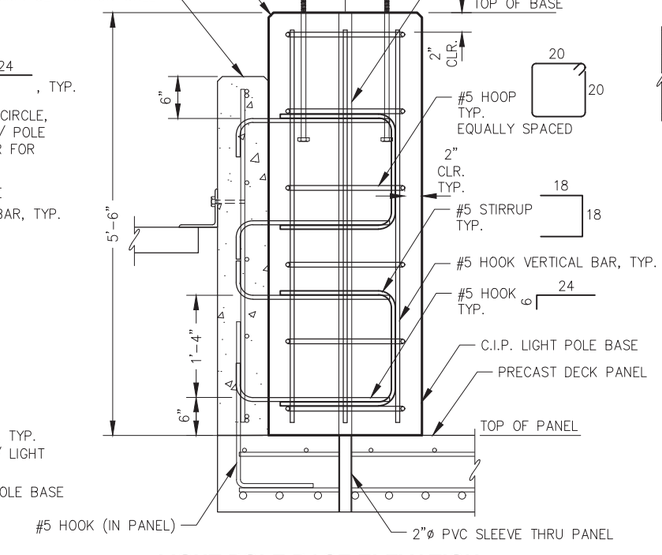
A C.I.P. CLOSURE POUR AT EXISTING BULKHEAD



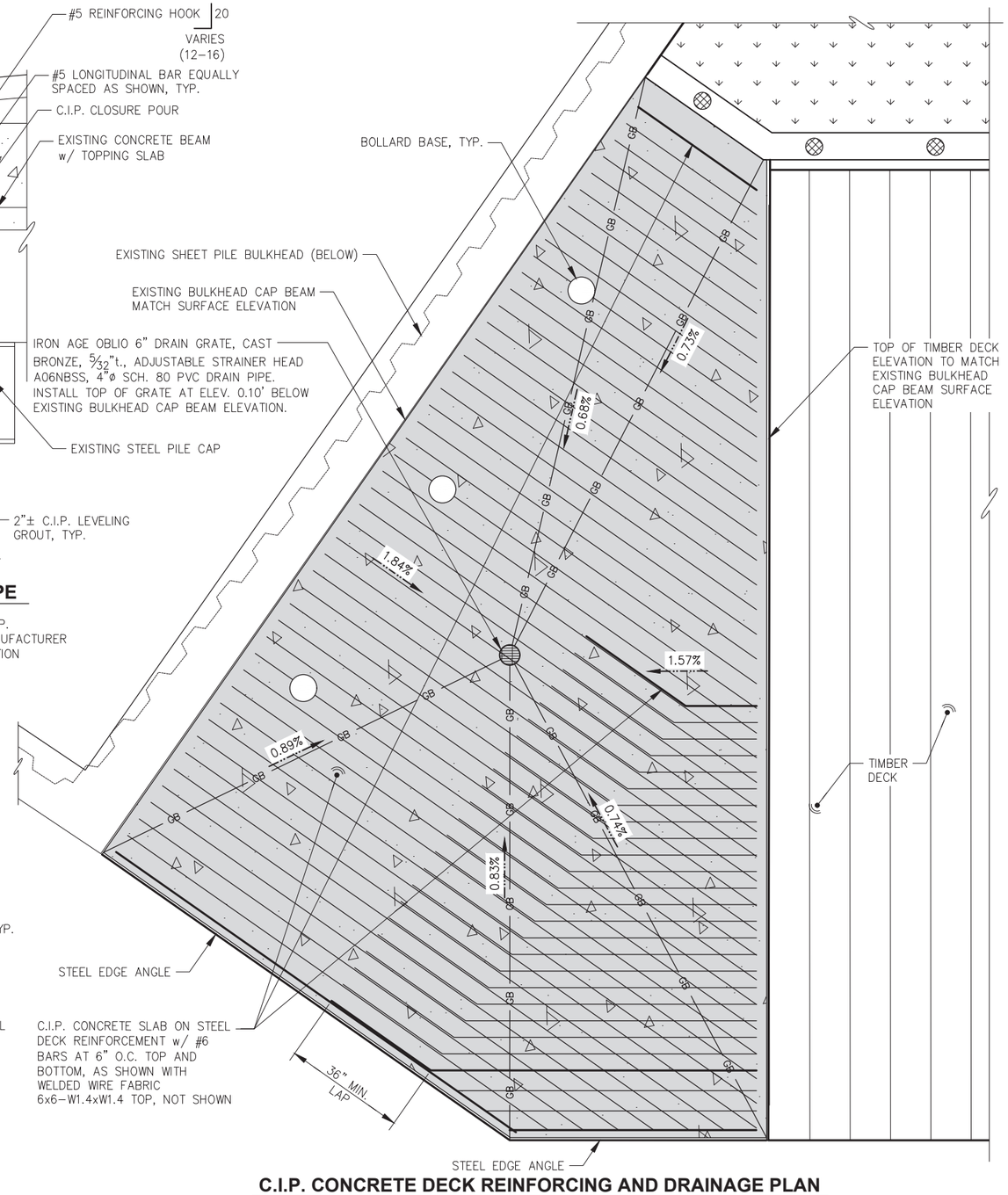
B C.I.P. CLOSURE POUR AT EXISTING LANDSCAPE



LIGHT POLE BASE PLAN



LIGHT POLE BASE ELEVATION



C.I.P. CONCRETE DECK REINFORCING AND DRAINAGE PLAN

NOTE: RAILING NOT SHOWN FOR CLARITY.
SHEAR STUDS NOT SHOWN THIS VIEW FOR CLARITY.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: MDH CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

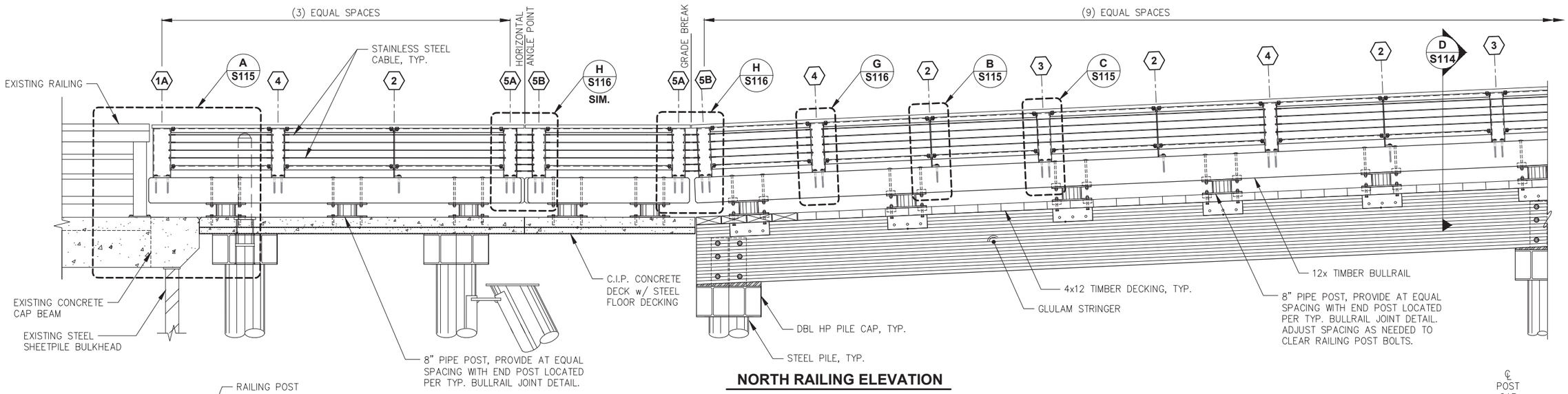
STATE OF ALASKA 49TH
John L. DeMuth SE-14159 REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

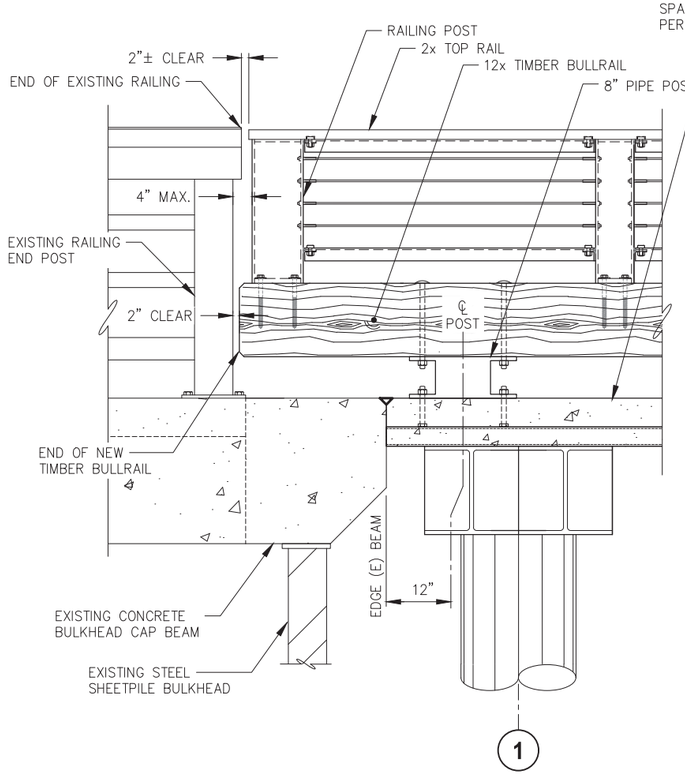
SHEET TITLE:
CONCRETE DECK PANEL DETAILS

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

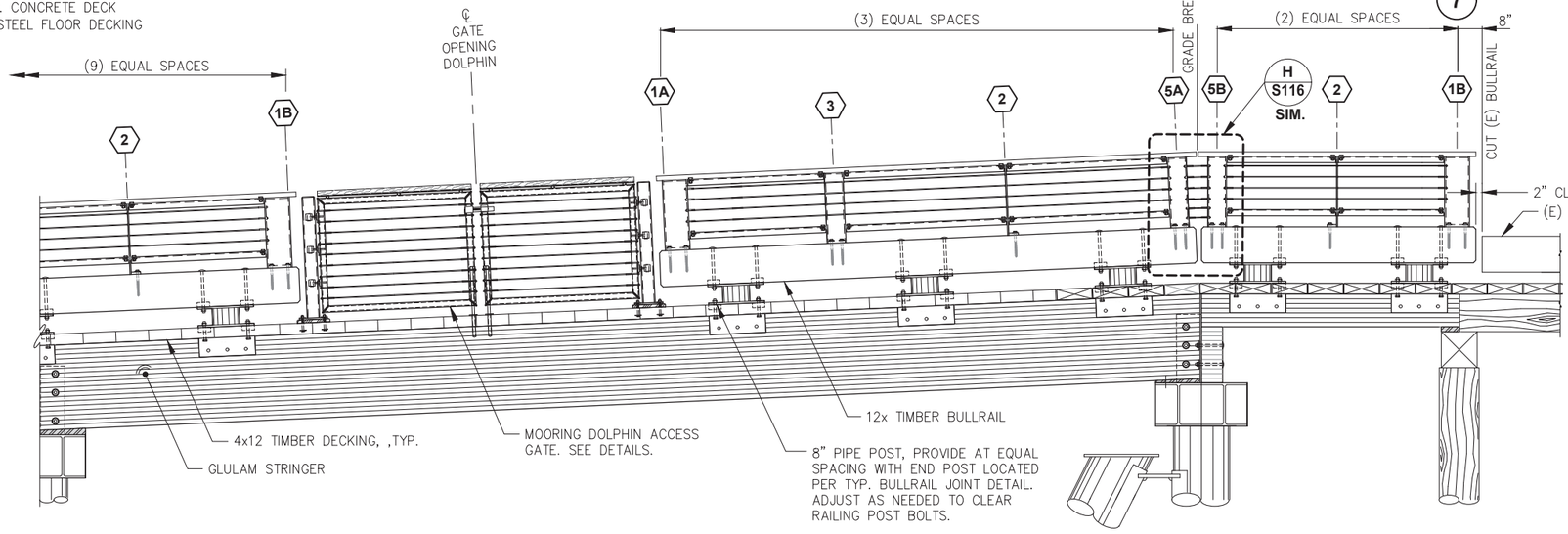
S112



NORTH RAILING ELEVATION



A RAILING AND BULLRAIL END AT EXISTING BULKHEAD



RAILING NOTES:

1. TOP AND BOTTOM BENT PLATES BOLTED CONNECTIONS MUST BE INSTALLED PRIOR TO CABLE INSTALLATION AND TIGHTENING.
2. ALL WELDS SHALL BE GROUND SMOOTH AND ALL METAL EDGES DEBURRED AND LIGHTLY ROUNDED PRIOR TO GALVANIZING.
3. TREAT TIMBER FIELD CUTS PER SPECIFICATIONS. ALL CUT OR FIELD WELDED GALV. MEMBERS SHALL BE GALV. REPAIRED PER SPECIFICATIONS.
4. LOCATION OF TURNBUCKLES FOR ILLUSTRATION PURPOSES ONLY. COORDINATE ACTUAL LOCATIONS PER CABLE MANUFACTURERS RECOMMENDATIONS.
5. TIGHTEN STAINLESS STEEL CABLE AS NECESSARY TO ALLEVIATE SAGGING PER MANUFACTURES RECOMMENDATIONS.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: WRB CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

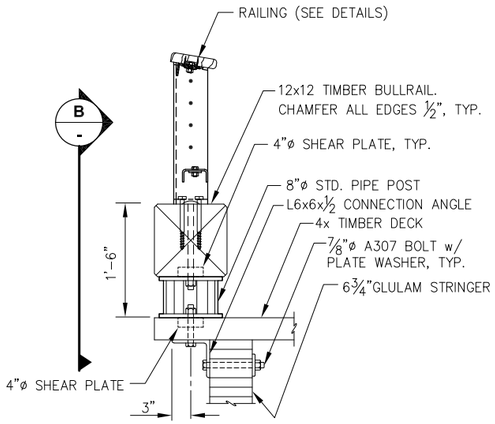
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
CABLE STRAND RAILING ELEVATION

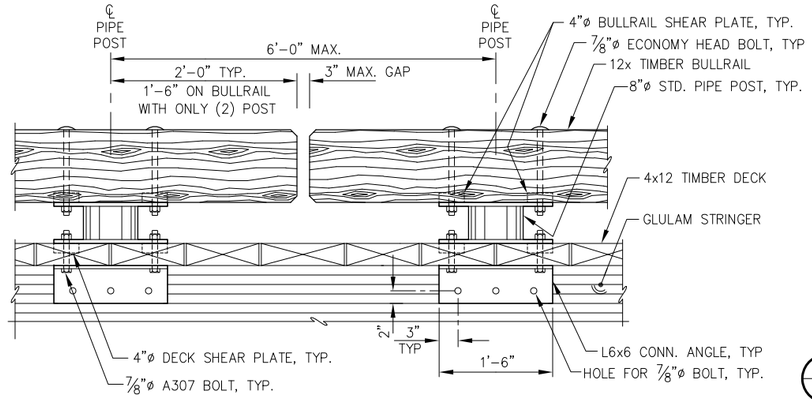
PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

S113

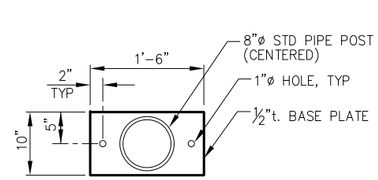


A - TYPICAL BULLRAIL SECTION

NOTE: ALL BULLRAIL CONNECTION BOLTS SHALL BE ⅞"ø UNLESS OTHERWISE NOTED.

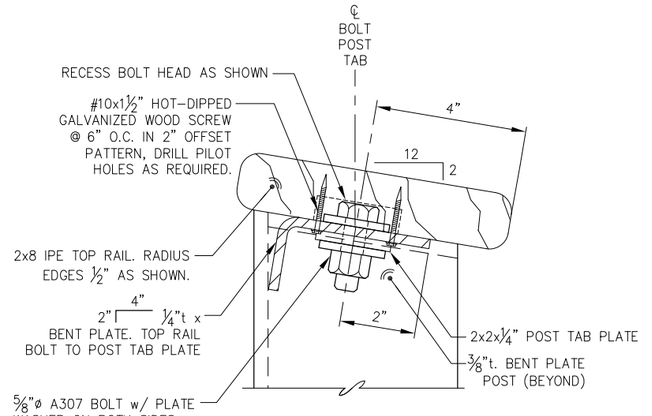


B - TYPICAL BULLRAIL JOINT

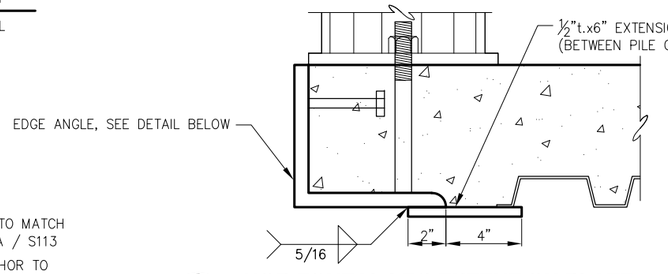


NOTE:
PROVIDE AT EQUAL SPACING AS SHOWN ON ELEVATION (SHEETS G107 AND S113) WITH END POST LOCATED PER TYP. BULLRAIL JOINT DETAIL.

C - BULLRAIL PIPE POST

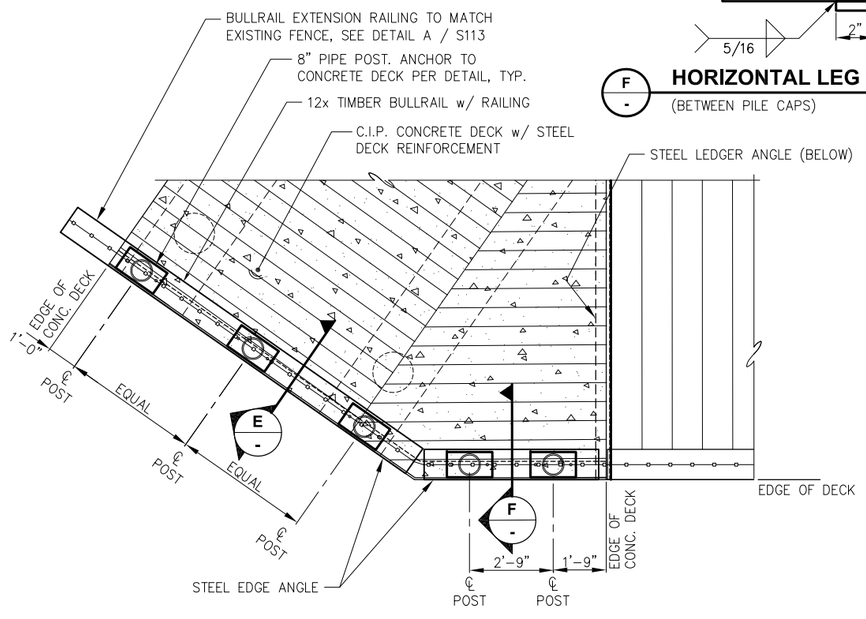


TOP RAIL DETAIL

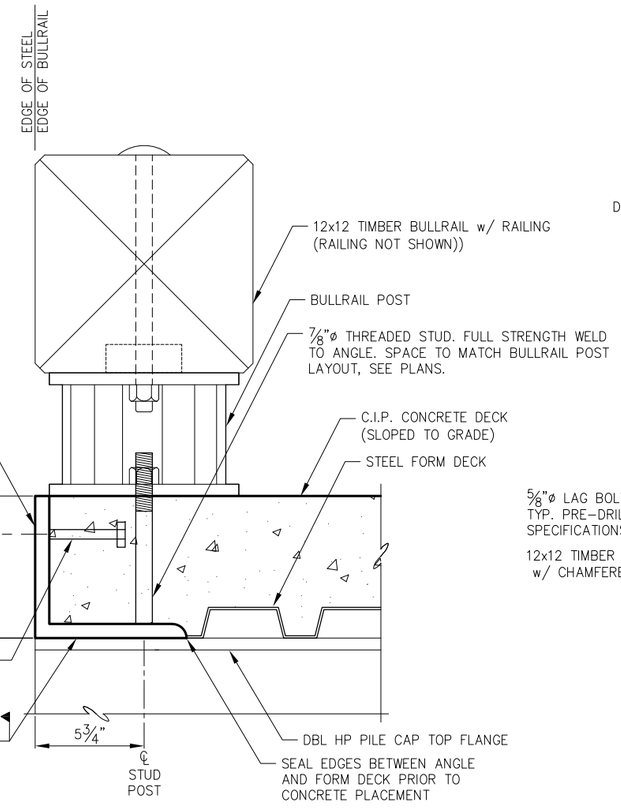


F - HORIZONTAL LEG EXTENTION PLATE

(BETWEEN PILE CAPS)

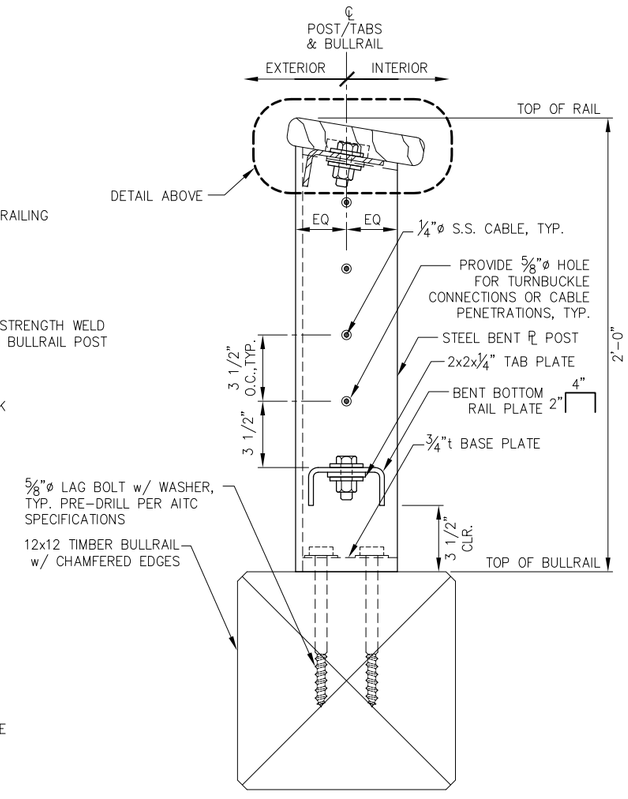


BULLRAIL PIPE POST IN CONCRETE DECK - PLAN



E - EDGE OF C.I.P DECK - SECTION

(AT PILE CAP) – SEE HORIZONTAL LEG EXTENSION DETAIL FOR SECTION BETWEEN PILE CAP



D - TYPICAL POST SECTION

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: WRB CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

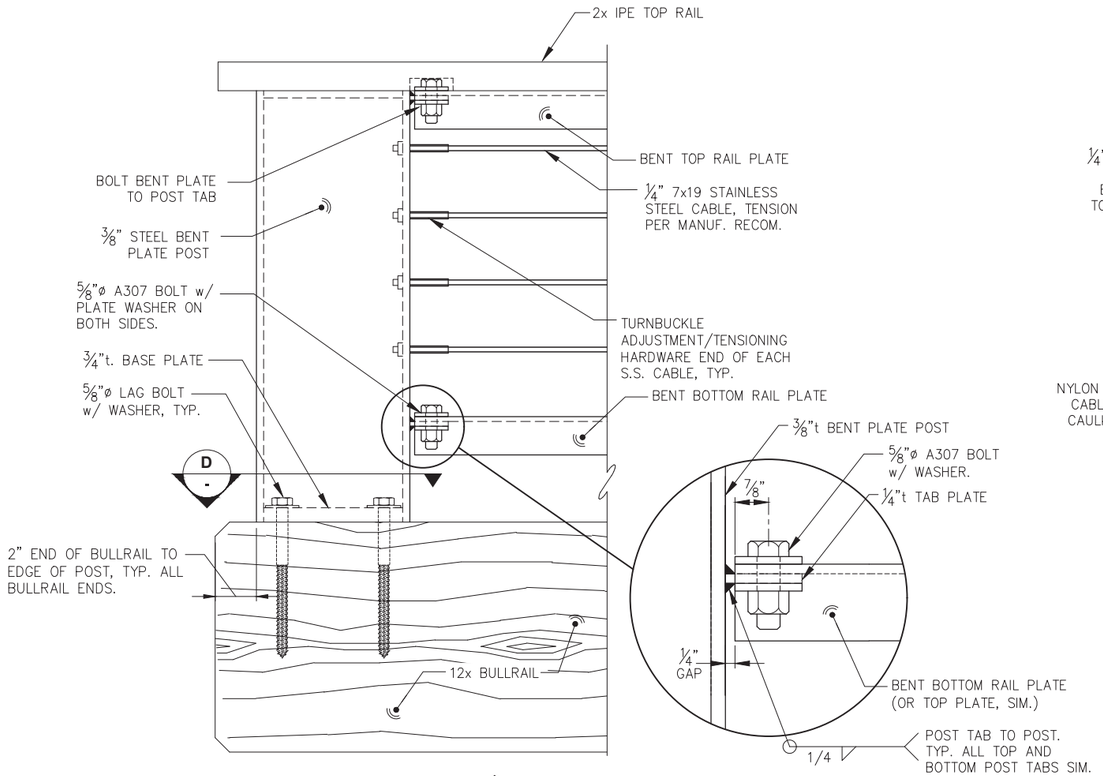
STATE OF ALASKA 49TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

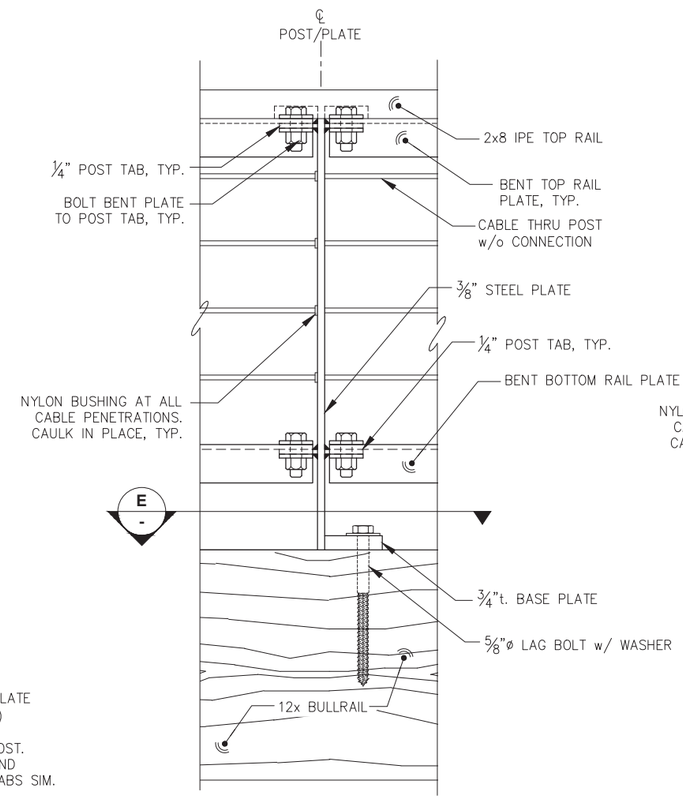
SHEET TITLE:
CABLE STRAND RAILING DETAILS

PND PROJECT NO.: 192091
C.A.N. NO.: AECC250

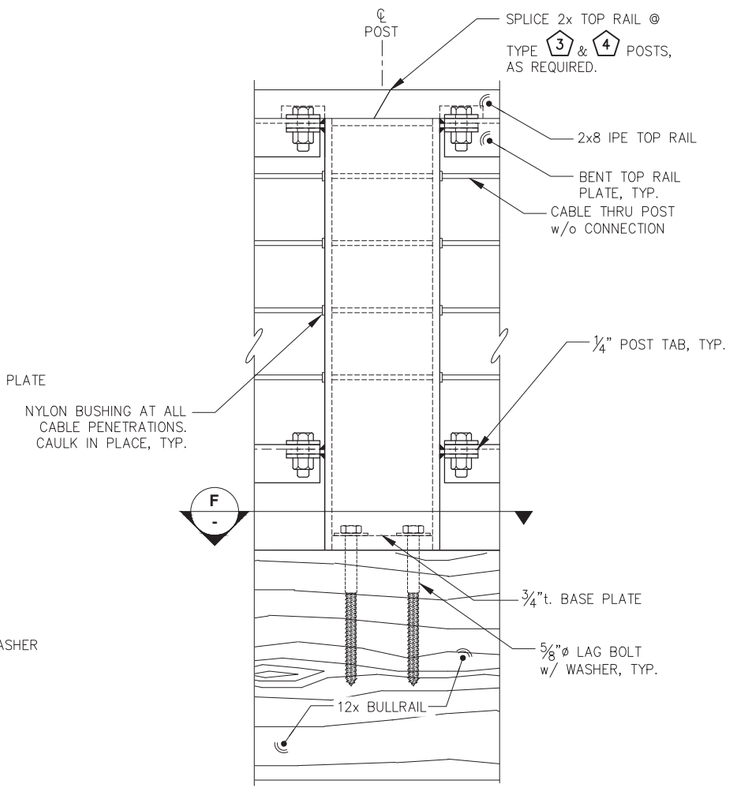
S114



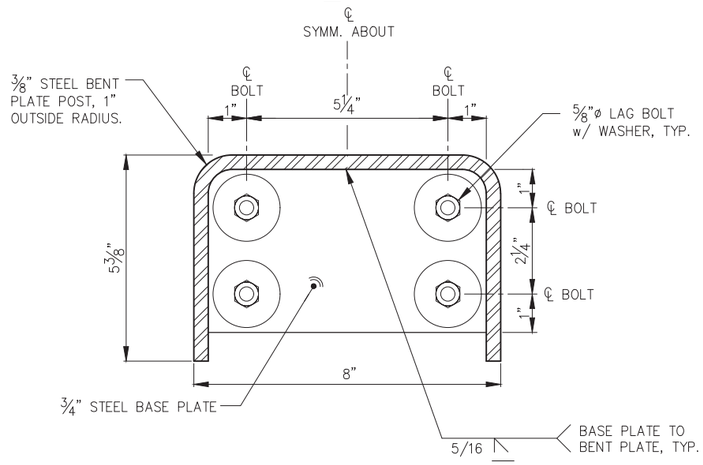
A - RAILING POST TYPE 1A ELEVATION 1B (OPP HAND)



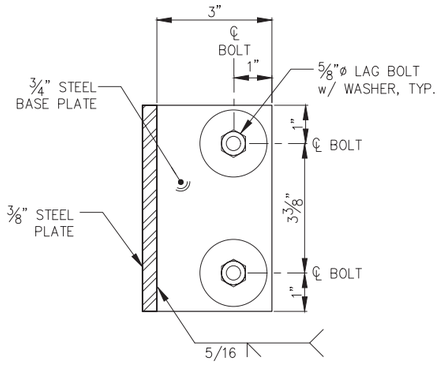
B - STANDARD RAILING POST TYPE 2 ELEVATION



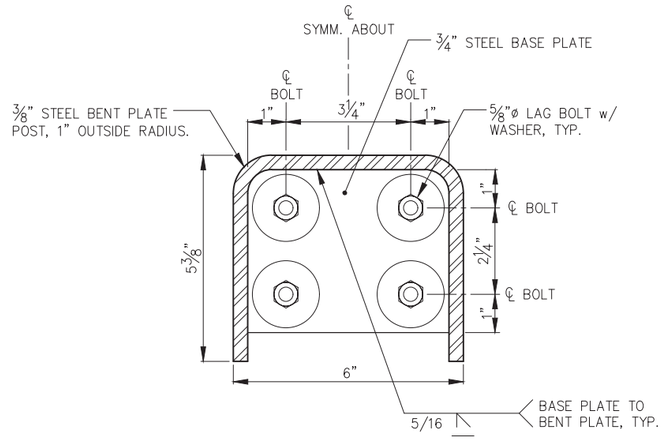
C - POST TYPE 3 w/o TURNBUCKLES ELEVATION



D - POST BASE PLATE TYPE 1A & 1B



E - POST BASE PLATE TYPE 2



F - POST BASE PLATE TYPE 3 4 5A & 5B

CITY AND BOROUGH OF JUNEAU — ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: JLD CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

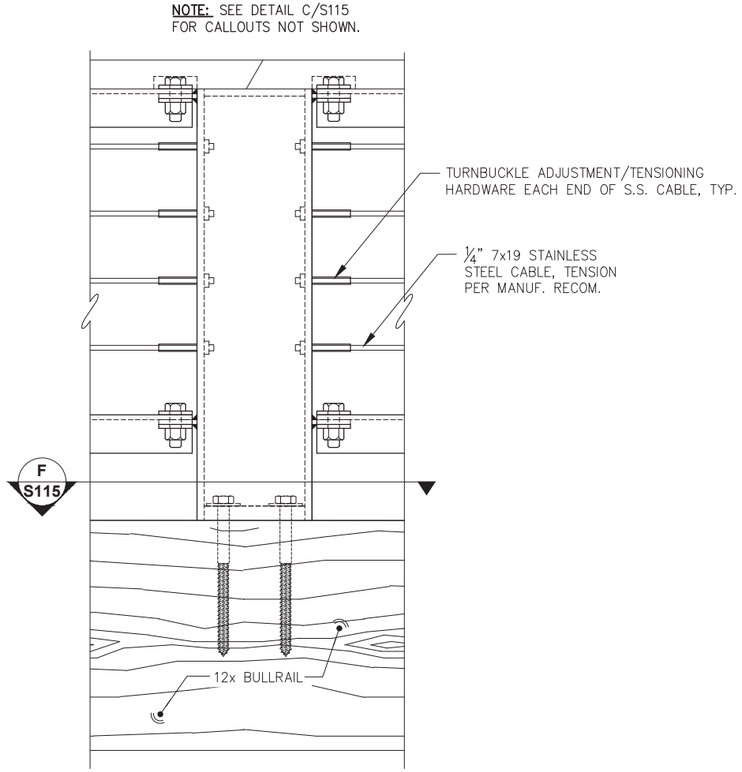
STATE OF ALASKA 49 TH — John L. DeMuth SE-14159 — REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

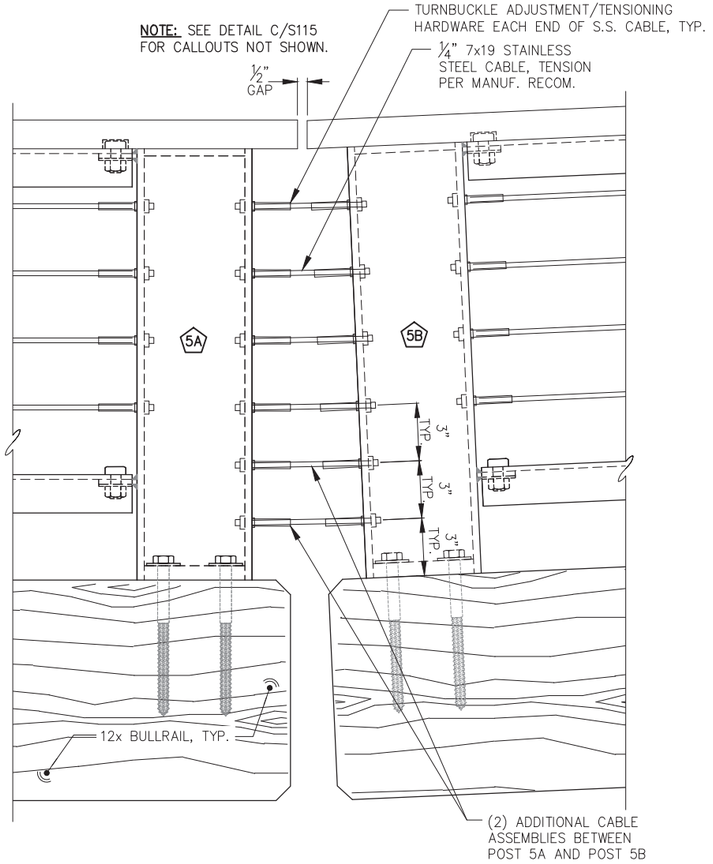
SHEET TITLE: **CABLE STRAND RAILING DETAILS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

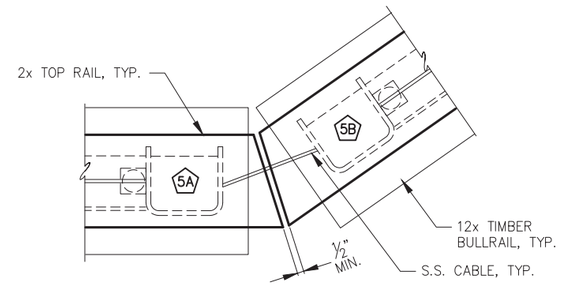
S115



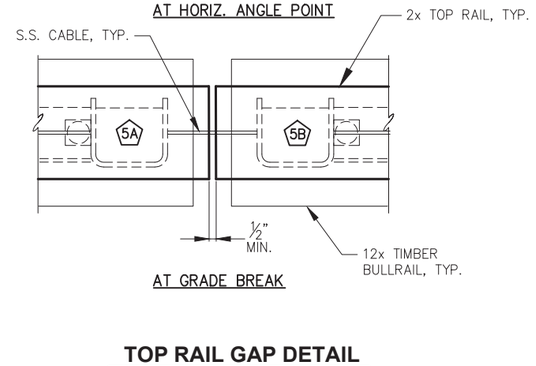
G - **POST TYPE 4 w/ TURNBUCKLES ELEVATION**



H - **RAILING POST TYPE 5A & 5B ELEVATION**



AT HORIZ. ANGLE POINT



AT GRADE BREAK

TOP RAIL GAP DETAIL

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: JLD CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN
DATE: 07/19/2021

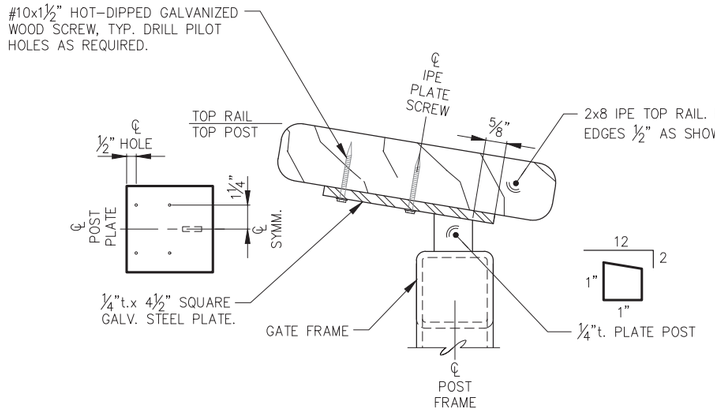
STATE OF ALASKA 49 TH
John L. DeMuth
SE-14159
REGISTERED STRUCTURAL ENGINEER

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

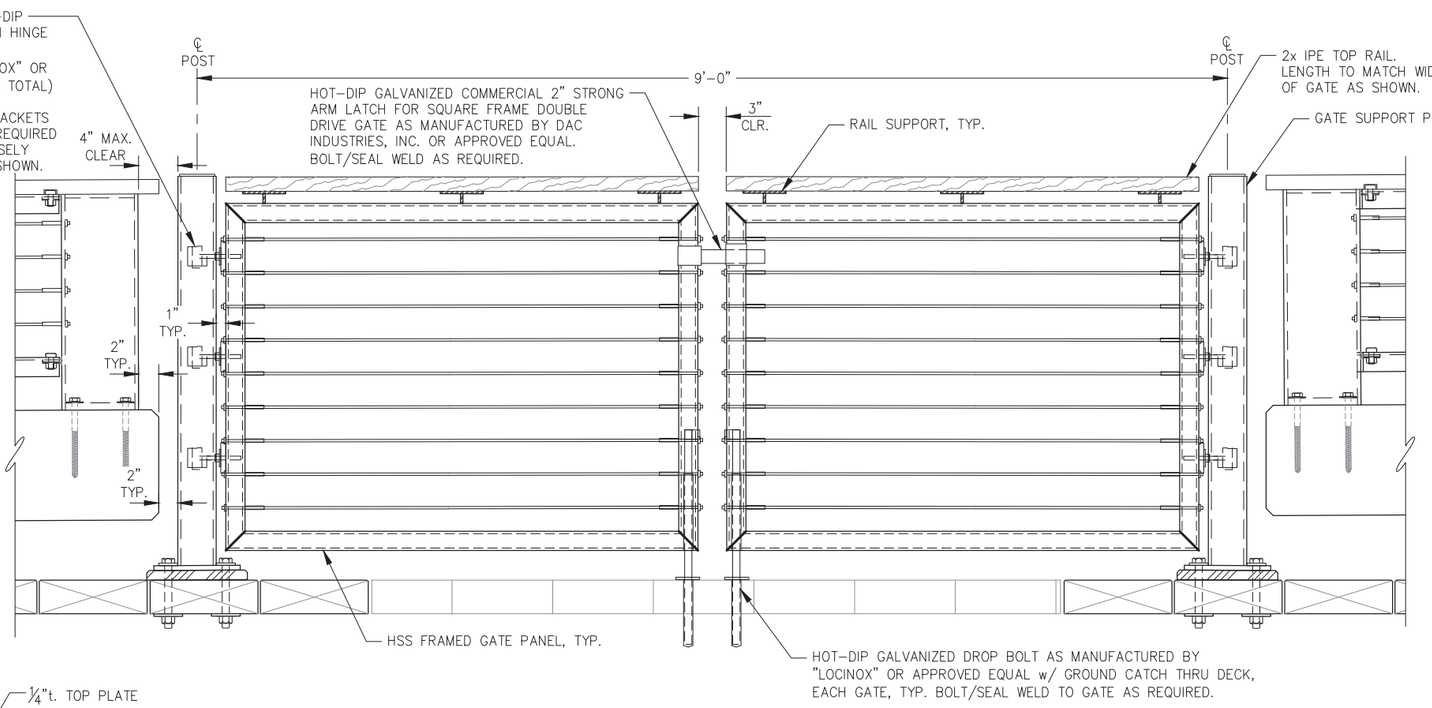
SHEET TITLE: **CABLE STRAND RAILING DETAILS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

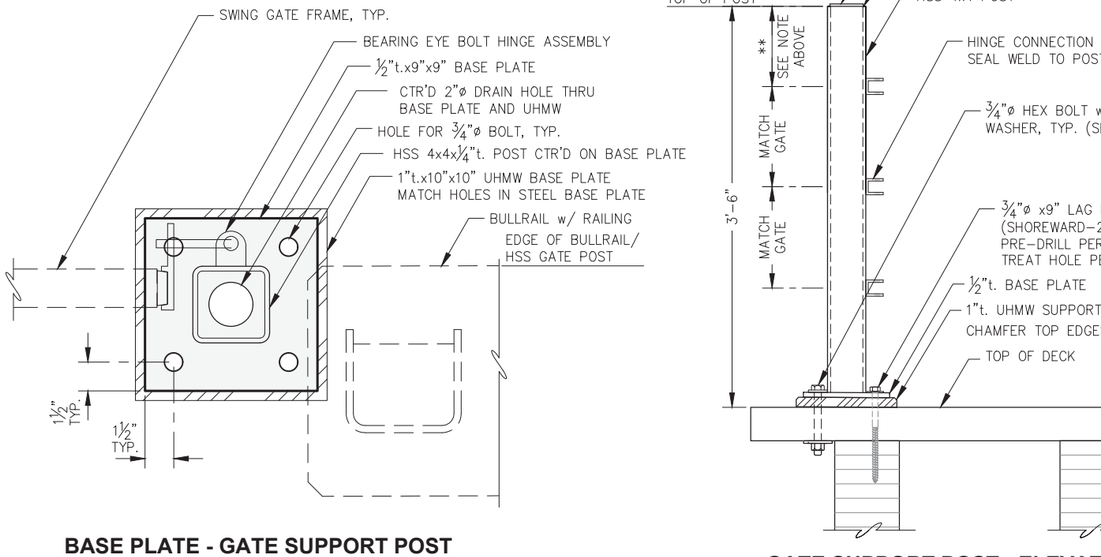
S116



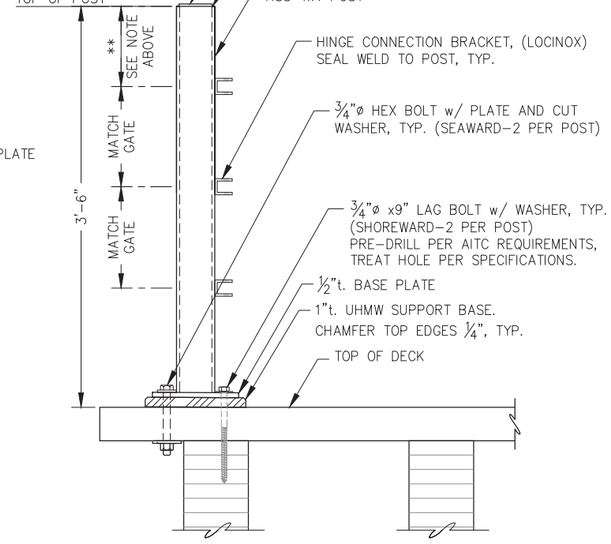
GATE TOP RAIL SUPPORT



DOUBLE SWING ACCESS GATE - ELEVATION



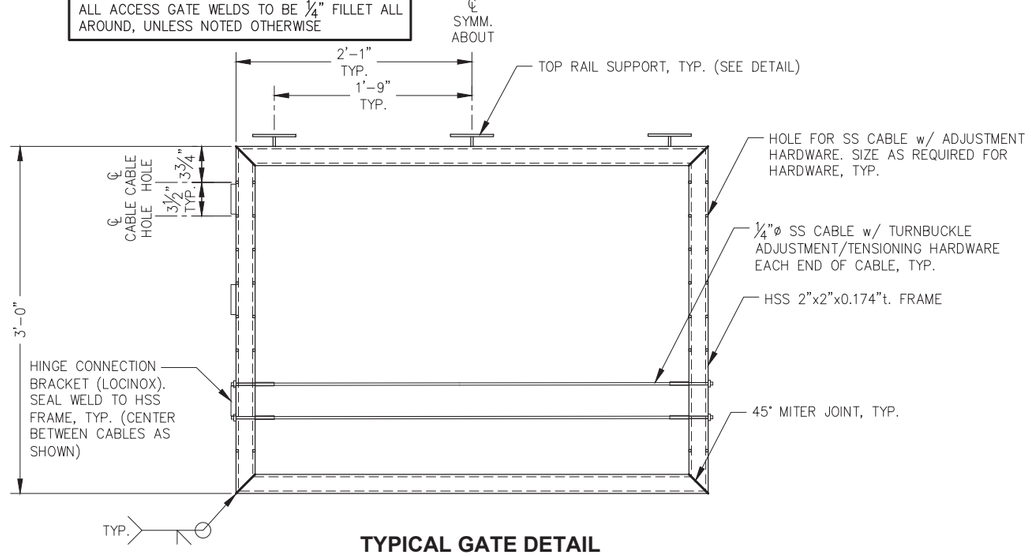
BASE PLATE - GATE SUPPORT POST



GATE SUPPORT POST - ELEVATION

NOTE: SEE DOUBLE SWING ACCESS GATE – ELEVATION FOR GATE SUPPORT POST LOCATION, (2) TOTAL REQ'D.

NOTE:
ALL ACCESS GATE WELDS TO BE ¼" FILLET ALL AROUND, UNLESS NOTED OTHERWISE



TYPICAL GATE DETAIL

NOTE: NOT ALL CABLES SHOWN FOR CLARITY. LATCH AND DROP BOLT ATTACHMENT NOT SHOWN. LOCATE AND INSTALL AS SHOWN DOUBLE SWING ACCESS GATE – ELEVATION.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: JLD CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: NTS

STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

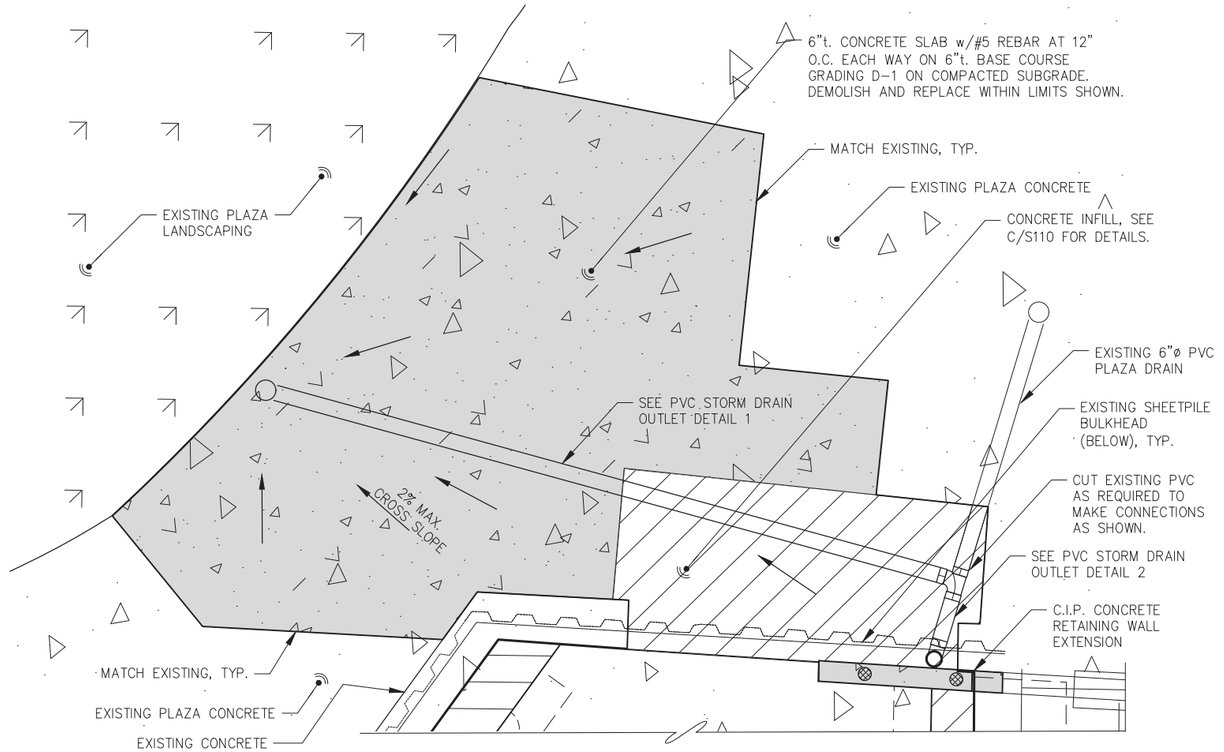
CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
EXISTING MOORING DOLPHIN MODIFICATIONS

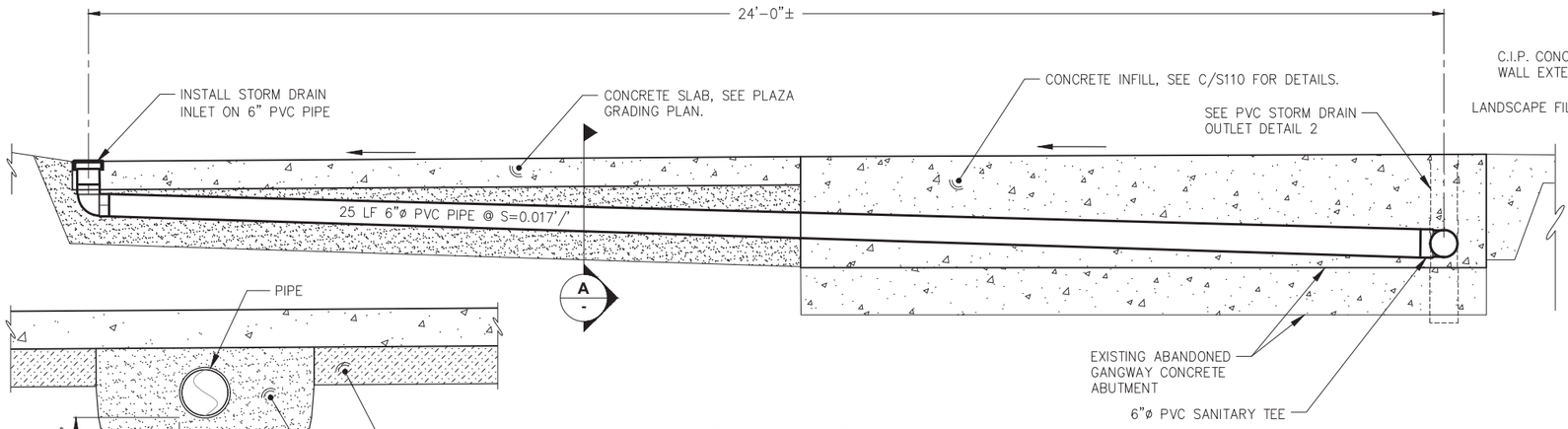
PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S117

DEMOLITION LIMITS PHOTO

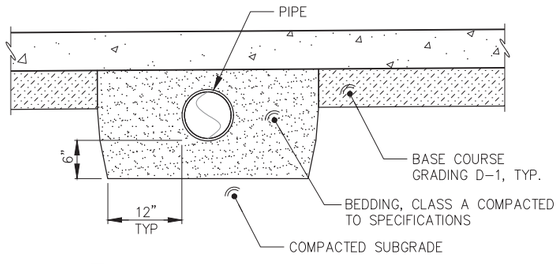


PLAZA GRADING PLAN



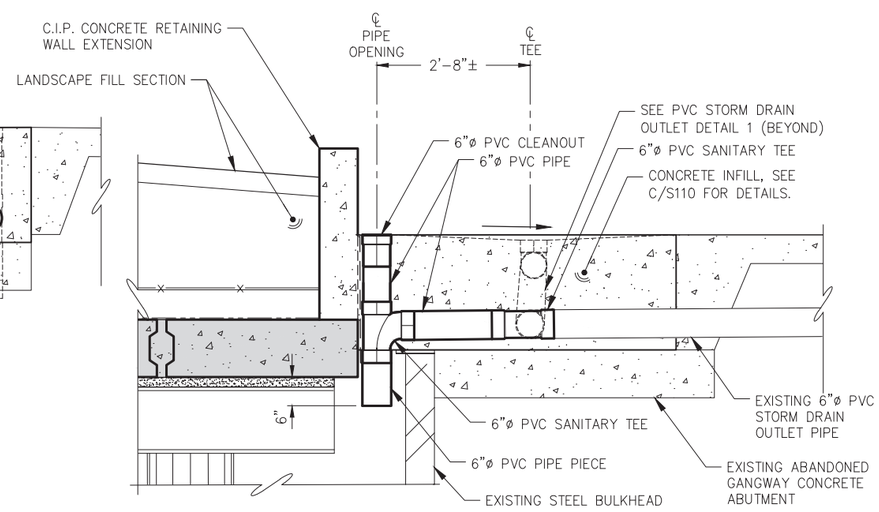
STORM DRAIN OUTLET DETAIL 1

NOTE: REINFORCING NOT SHOWN FOR CLARITY.



A

BEDDING DETAIL



STORM DRAIN OUTLET DETAIL 2

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

P N D ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: WRB CHECKED: JLD
DRAWN: WRB APPROVED: JLD
SCALE: AS SHOWN

STATE OF ALASKA 49 TH
John L. DeMuth SE-14159
REGISTERED STRUCTURAL ENGINEER
DATE: 07/19/2021

CITY & BOROUGH OF JUNEAU, ALASKA
MARINE PARK DECKOVER
CBJ CONTRACT NO. BE21-203

SHEET TITLE:
GRADING AND DRAINAGE DETAILS

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

S118

LEGEND

SHEET NOTE SYMBOLS:

- (E) EXISTING TO REMAIN
- (N) NEW
- (R) RELOCATE EXISTING
- (X) REMOVE EXISTING

SECURITY DEVICES:

- C SECURITY CAMERA

LIGHTING:

- ROUND POLE MOUNTED LUMINAIRE

SERVICE EQUIPMENT:

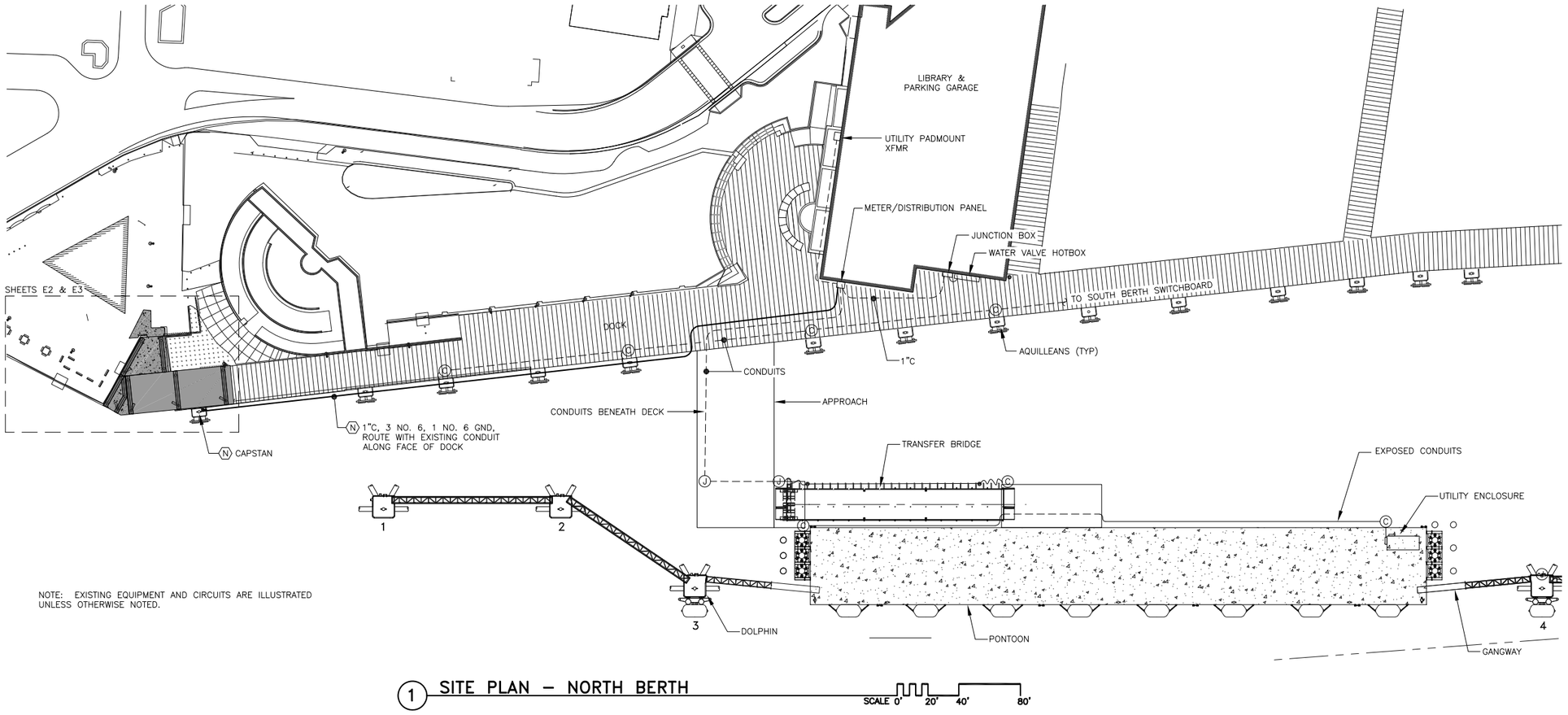
- H HANDHOLE

CONDUIT & CONDUCTORS:

- CONDUIT UNDERGROUND OR BENEATH DECK

POWER:

- (J) JUNCTION BOX
- (C) CONDULET OR CONDUIT BODY



NOTE: EXISTING EQUIPMENT AND CIRCUITS ARE ILLUSTRATED UNLESS OTHERWISE NOTED.

1 SITE PLAN – NORTH BERTH

SCALE 0' 20' 40' 80'

CITY & BOROUGH OF JUNEAU — DOCKS & HARBORS

HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
526 Main Street, Juneau, AK 99801
(907) 586-9788

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: BCH CHECKED: BCH
DRAWN: PEL APPROVED:
SCALE:

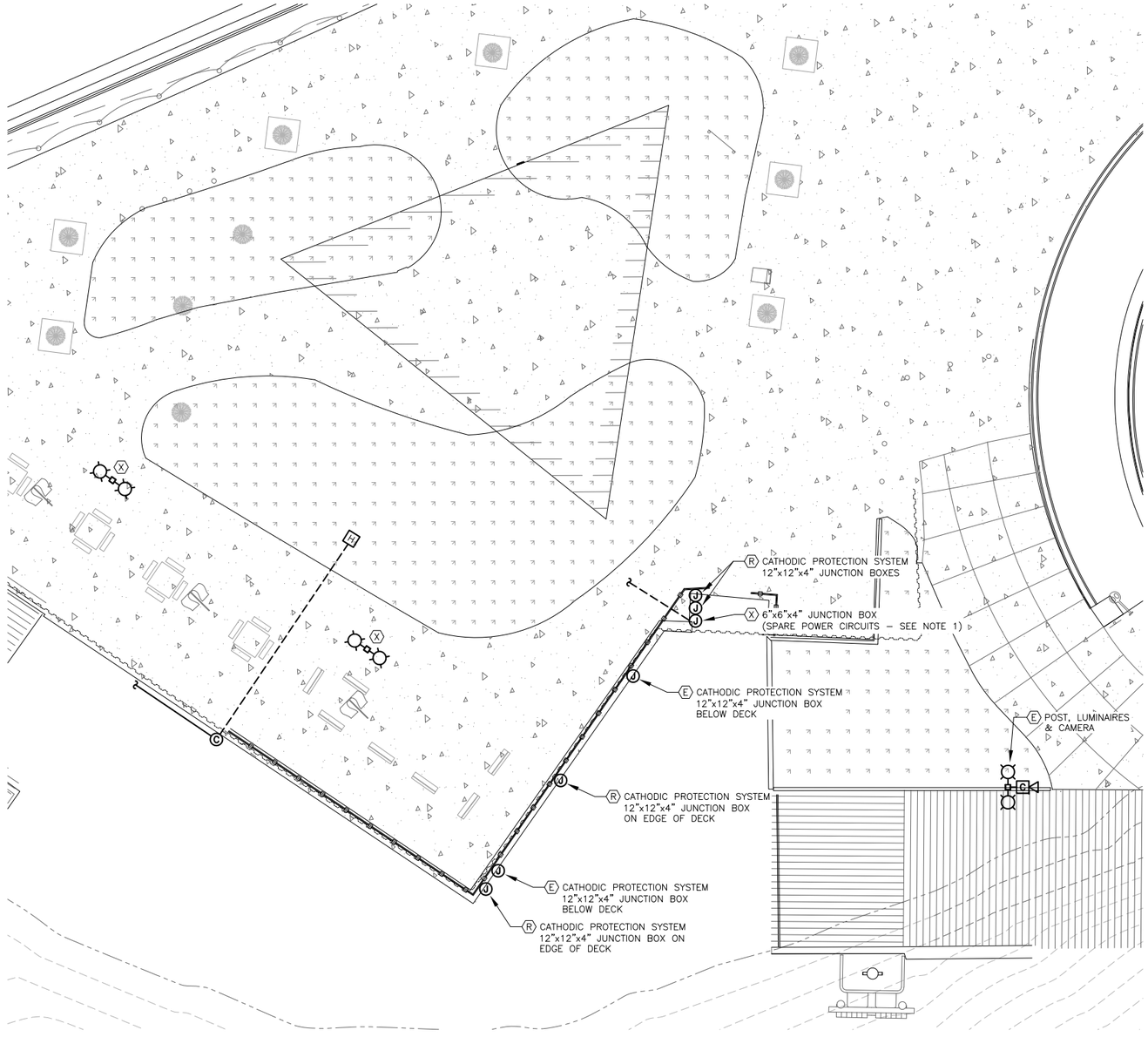
STATE OF ALASKA — REGISTERED PROFESSIONAL ENGINEER — EE 4800 — 19 JULY 2021
DATE:

MARINE PARK DECKOVER
CBJ CONTRACT NO. CBJ BE21-203

SHEET TITLE:
SITE PLAN - NORTH BERTH

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

E1



NOTES:

1. REMOVE THE SPARE CONDUCTORS. SEE SHEET E3.

1 EXISTING SITE PLAN – ELECTRICAL

SCALE: 0' 5' 10' 20'

CITY & BOROUGH OF JUNEAU
DOCKS & HARBORS

HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
526 Main Street, Juneau, AK 99801
(907) 586-9788

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: BCH CHECKED: BCH
DRAWN: PEL APPROVED:
SCALE:

STATE OF ALASKA
EE 14800
REGISTERED ELECTRICAL ENGINEER
19 JULY 2021
DATE:

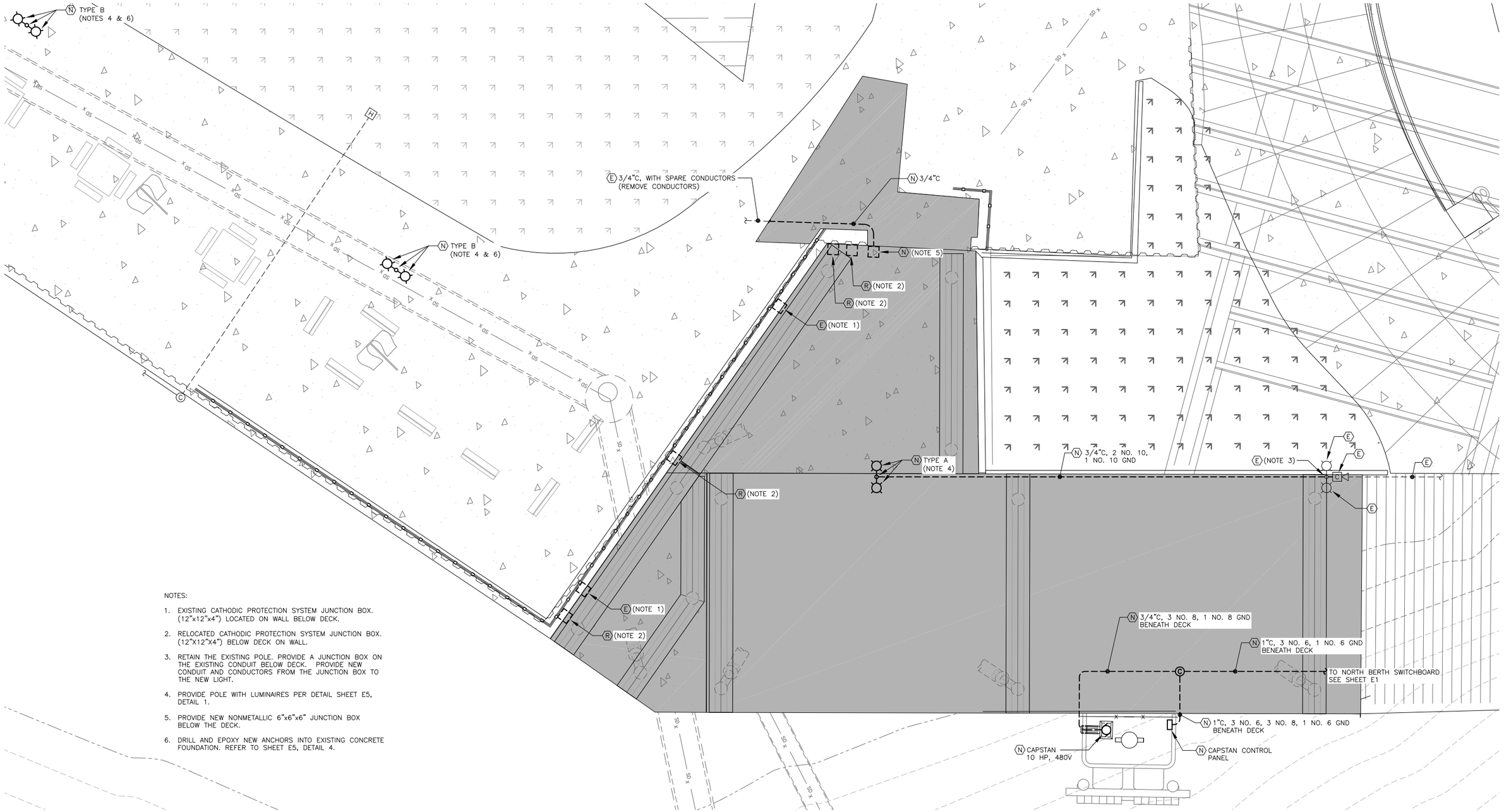
MARINE PARK DECKOVER
CBJ CONTRACT NO. CBJ BE21-203

SHEET TITLE:
EXISTING SITE PLAN ELECTRICAL

E2

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

Jul 15, 2021 – 2:39pm
G:\Shared drives\Projects\137 PND\127 Marine Park\Drawings\Working\E2.dwg (E2 tab)



NOTES:

1. EXISTING CATHODIC PROTECTION SYSTEM JUNCTION BOX. (12"x12"x4") LOCATED ON WALL BELOW DECK.
2. RELOCATED CATHODIC PROTECTION SYSTEM JUNCTION BOX. (12"X12"X4") BELOW DECK ON WALL.
3. RETAIN THE EXISTING POLE. PROVIDE A JUNCTION BOX ON THE EXISTING CONDUIT BELOW DECK. PROVIDE NEW CONDUIT AND CONDUCTORS FROM THE JUNCTION BOX TO THE NEW LIGHT.
4. PROVIDE POLE WITH LUMINAIRES PER DETAIL SHEET E5, DETAIL 1.
5. PROVIDE NEW NONMETALLIC 6"x6"x6" JUNCTION BOX BELOW THE DECK.
6. DRILL AND EPOXY NEW ANCHORS INTO EXISTING CONCRETE FOUNDATION. REFER TO SHEET E5, DETAIL 4.

1 NEW SITE PLAN – ELECTRICAL

SCALE: 0' 1' 3' 5' 10'

CITY & BOROUGH OF JUNEAU — DOCKS & HARBORS

HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
526 Main Street, Juneau, AK 99801
(907) 586-9788

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: BCH CHECKED: BCH
DRAWN: PEL APPROVED:
SCALE:

STATE OF ALASKA — BENJAMIN C. HAIGHT — EE 4800 — REGISTERED PROFESSIONAL ENGINEER — 19 JULY 2021
DATE:

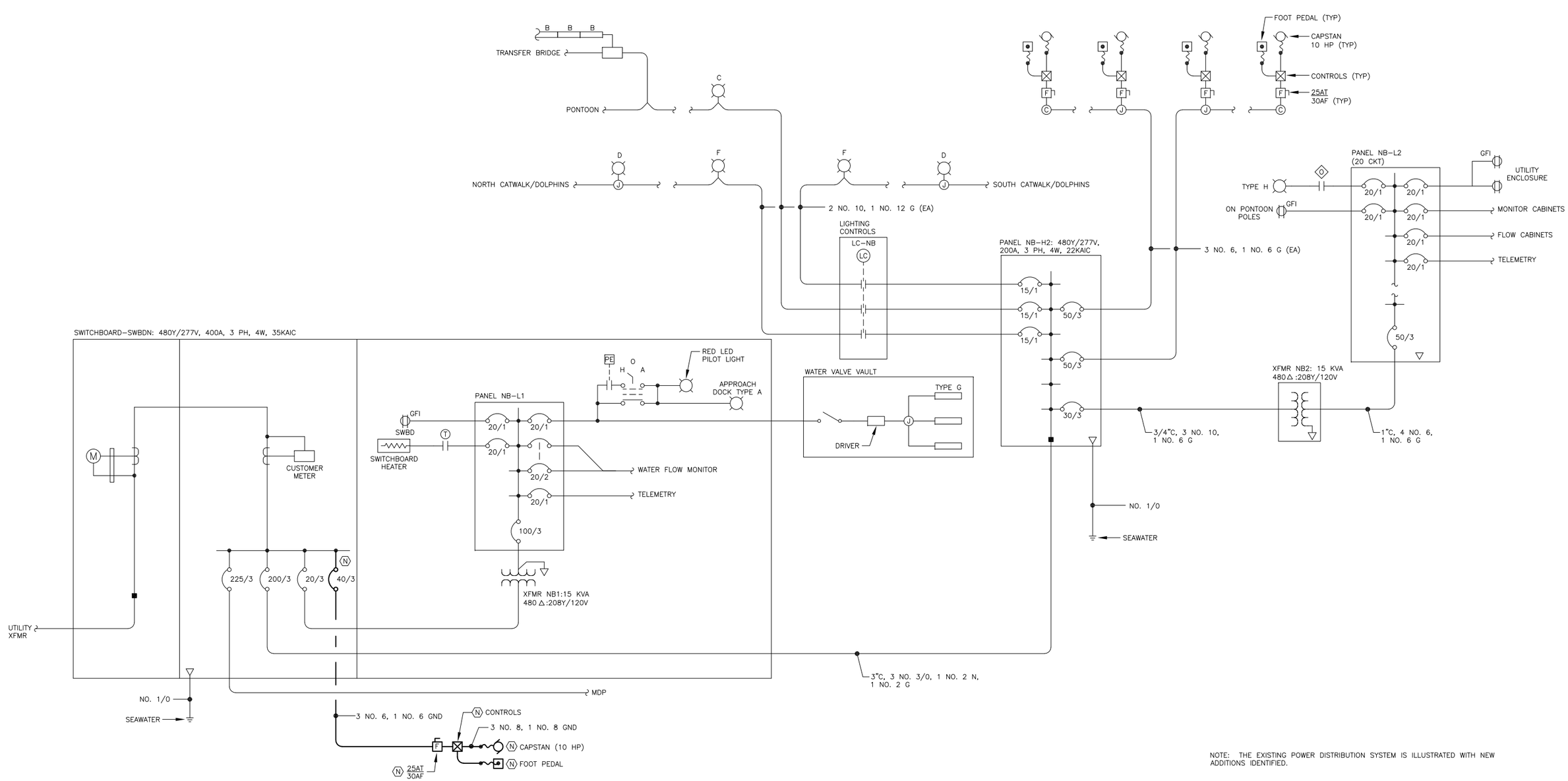
MARINE PARK DECKOVER
CBJ CONTRACT NO. CBJ BE21-203

SHEET TITLE:
NEW SITE PLAN ELECTRICAL

E3

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

Jul 15, 2021 - 2:38pm
G:\Shared drives\Projects\137 PND\127 Marine Park\Drawings\Working\E3.dwg (E3 tab)



NOTE: THE EXISTING POWER DISTRIBUTION SYSTEM IS ILLUSTRATED WITH NEW ADDITIONS IDENTIFIED.

1 SINGLE LINE DIAGRAM – NORTH BERTH DISTRIBUTION

CITY & BOROUGH OF JUNEAU DOCKS & HARBORS

HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
526 Main Street, Juneau, AK 99801
(907) 586-9788

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: BCH CHECKED: BCH
DRAWN: PEL APPROVED:
SCALE:
DATE:

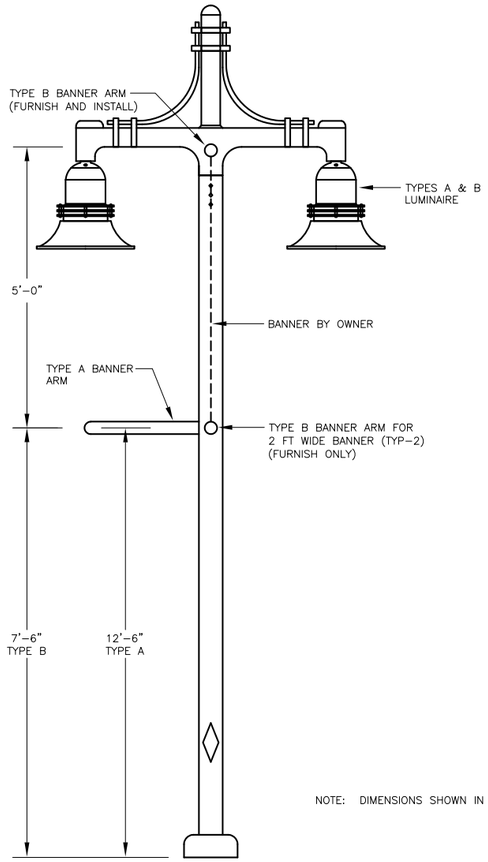
STATE OF ALASKA EE 4800 PROFESSIONAL ENGINEER 19 JULY 2021

MARINE PARK DECKOVER
CBJ CONTRACT NO. CBJ BE21-203

SHEET TITLE:
SINGLE LINE DIAGRAM - NORTH BERTH DISTRIBUTION

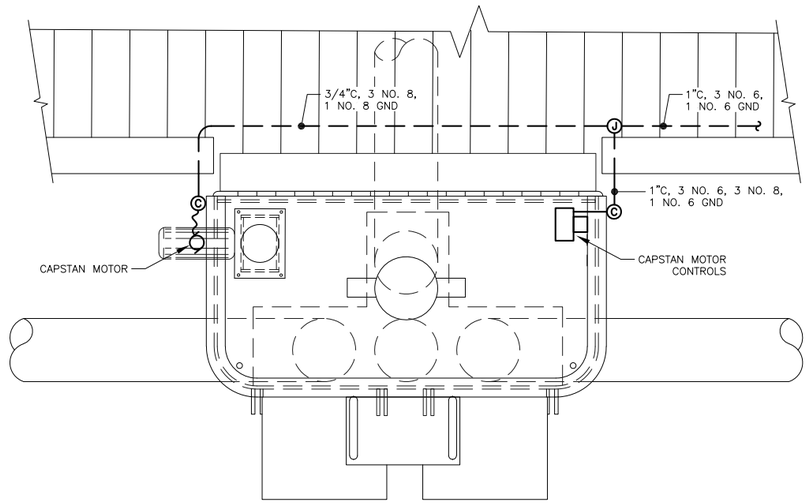
PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

E4

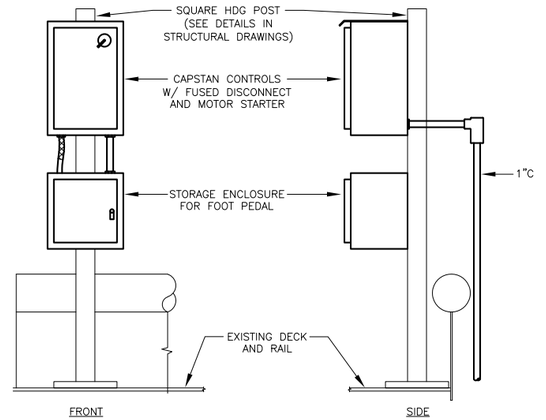


NOTE: DIMENSIONS SHOWN IN DETAIL ARE FOR THE BANNER ARMS.

1 DETAIL LIGHT POLE
SCALE: 0 6" 1' 2' 4'



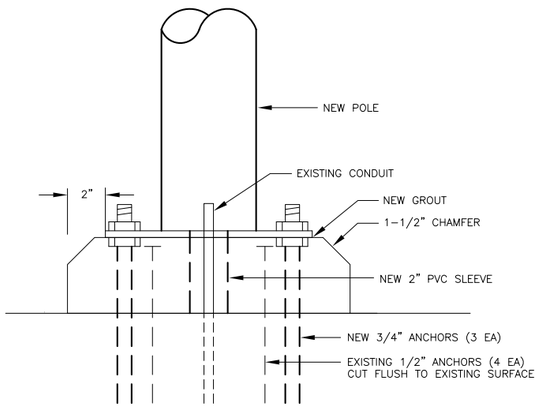
2 PLAN VIEW – CAPSTAN DOLPHIN PLAN
SCALE: 0 1' 2' 4'



3 ELEVATION – CAPSTAN CONTROL POST
SCALE: 0 6" 1' 2'

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	LAMPS	REMARKS
A	POLE MOUNTED DECORATIVE LED AREA LIGHT, CAST ALUMINUM TOP HOUSING, SOLID RINGS MID SECTION, FLUTE ALUMINUM SHADE, FLAT FROSTED GLASS LENS, TYPE IV DISTRIBUTION, TRADITIONAL SINGLE POLE MOUNT ARM WITH ROUNDED UPPER BAR. INTEGRAL ELECTRONIC DRIVER, 120-277V, 2823 LUMENS. 20'H x 5" DIA ROUND STRAIGHT GALVANIZED STEEL POLE WITH POWDER COAT FINISH TO MATCH, HARTFORD GREEN FINISH.	LUMINAIRE: INVUE MODEL NO. EMM-E01-LED-E1-SL4-SR-FL-GN-8030-VA6160-GN POLE: INVUE MODEL NO. ARX-5-T-20-N-GN-4	25W WHITE LED 3000K, CRI 80	
B	POLE MOUNTED DECORATIVE LED AREA LIGHT, CAST ALUMINUM TOP HOUSING, SOLID RINGS MID SECTION, FLUTE ALUMINUM SHADE, FLAT FROSTED GLASS LENS, TYPE IV DISTRIBUTION, TRADITIONAL SINGLE POLE MOUNT ARM WITH ROUNDED UPPER BAR. INTEGRAL ELECTRONIC DRIVER, 120-277V, 2823 LUMENS. 14'H X 5" DIA ROUND STRAIGHT GALVANIZED STEEL POLE WITH POWDER COAT FINISH TO MATCH, HARTFORD GREEN FINISH.	LUMINAIRE: INVUE MODEL NO. EMM-E01-LED-E1-SL4-SR-FL-GN-8030-VA6160-GN POLE: INVUE MODEL NO. ARX-5-T-14-N-GN-4	25W WHITE LED 3000K, CRI 80	PROVIDE BANNER BRACKET ARMS ON BOTH SIDES OF THE POLE.



4 DETAIL – TYPE B POLE BASE
SCALE: 0 3" 6" 12"

CITY & BOROUGH OF JUNEAU
DOCKS & HARBORS

HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
526 Main Street, Juneau, AK 99801
(907) 586-9788

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pndengineers.com

DESIGN: BCH CHECKED: BCH
DRAWN: PEL APPROVED:
SCALE:
DATE:

STATE OF ALASKA
EE 4800
19 JULY 2021

MARINE PARK DECKOVER
CBJ CONTRACT NO. CBJ BE21-203

SHEET TITLE: **DETAILS**

PND PROJECT NO.: 192091 C.A.N. NO.: AECC250

E5

Jul 15, 2021 - 2:40pm
G:\Shared drives\Projects\137 PND\127 Marine Park\Drawings\Working\E5.dwg (E5 tab)