

**SECTION 00 01 01
PROJECT TITLE PAGE**

EARTHWORKS ON-CALL

**PROJECT NO. VARIOUS
CONTRACT NO. 070131**

**PORT OF TACOMA
TACOMA, WASHINGTON**

**Thais Howard, P.E.
Director, Engineering**

END OF PROJECT TITLE PAGE

PROCUREMENT AND CONTRACTING REQUIREMENTS

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**THE PORT OF TACOMA IS CURRENTLY ACCEPTING SEALED BIDS FOR CONSTRUCTION OF
THE FOLLOWING:**

**EARTHWORKS ON-CALL
CONTRACT NO. 070131**

Scope of Work: The work required for this project includes providing all labor, materials, and equipment necessary to complete miscellaneous earthworks, hauling and grading projects and associated tasks. The Port does not guarantee a certain amount of work. The work will be assigned by Task Orders; each Task Order will address the scope of work and time of completion, and shall be performed in accordance with the Specifications and Task Order details.

Contract Amount: Contract amount is Not to Exceed (NTE) \$800,000.00, plus Washington State Sales Tax.

Sealed Bid Date/Time/ Location: Bids will be received at the Front Reception Desk, Port Administration Office, One Sitzum Plaza, Tacoma, Washington until **2:00 P.M. on Monday, May 23, 2016**, at which time they will be publicly opened and read aloud.

Pre-bid Conference and Site Tour: No pre-bid or site visit is scheduled for this project.

Bidding Security: Each bid must be accompanied by a Certified Check or Bid Security in an amount equal to five (5%) percent of the NTE contract amount (\$800,000.00).

Contact Information: All questions are to be put into writing to Jana Prince, Sr. Contract Administrator at procurement@portoftacoma.com. No oral answers will be binding by the Port.

Bidding Documents: Plans, Specifications, Addenda, and Plan Holders List for this project are available on-line through The Port of Tacoma's Website www.portoftacoma.com, "Contracts"; "Procurement" and then the Procurement Number (070131). **Bidders must subscribe to the Holder's List on the right hand side of the screen in order to receive automatic email notification of future addenda and to be placed on the Holder's List.**

Contact Jana Prince at procurement@portoftacoma.com with questions. The Holder's Lists will be updated regularly. Additional Instructions available in 00 21 00 - Instructions to Bidders.

END OF SECTION

PART 1 - SUMMARY

1.01 DEFINITIONS

All definitions set forth in the Agreement, the General Conditions of the Contract for Construction and in other Contract Documents are applicable to the Bidding Documents.

- A. "Addenda" are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections. The contents of an Addendum are issued in no particular order and therefore should be carefully and completely reviewed.
- B. "Award" means the formal decision by the Port of Tacoma ("Port") notifying a Responsible Bidder with the lowest responsive Bid of the Port's acceptance of the Bid and intent to enter into a Contract with the Bidder.
- C. The "Award Requirements" include the statutory requirements as a condition precedent to Award.
- D. The "Base Bid" is the sum stated in the Bid for which the Bidder offers to perform the Unit Price Items described in the Bidding Documents as the base to which Task Order proposal will be based on and payment will be made. The Base Bid for On-Call Contracts is the sum of the Unit Prices at the quantity estimated for these services.
- E. A "Bid" is a complete and properly signed proposal to do the Work, submitted in accordance with the Bidding Documents, for the sums therein stipulated and supported by any data called for by the Bidding Documents.
- F. The "Bid Date" is the day and hour specified in the Bidding Documents, as may be changed through an Addendum, by which Bidders are required to submit Bids to the Port.
- G. The "Bid Form" is the form(s) included with the Bidding Documents, with Specification Section 00 41 00, through which a Bidder submits a Bid.
- H. A "Bidder" is a person or entity who submits a Bid.
- I. The "Bidding Documents" include the Advertisement or Invitation to Bid, Instructions to Bidders, the Bid Form, any other sample bidding and contract forms, the Bid Bond, and the proposed Contract Documents, including any Addenda issued prior to the Bid Date.
- J. The "Contract Documents" proposed for the Work consist of the Agreement, the General Conditions of the Contract (as well as any Supplemental, Special or other Conditions included in the project manual), the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.
- K. The "Schedule of Unit Prices" is a schedule on the Bid Form for Unit Pricing as an all-inclusive price per unit of measurement for materials, equipment or services as described in the Bidding Documents or in the proposed Contract Documents for the optional use of the Port. Quantities are general predictions of amounts anticipated. The Schedule of Unit Prices is used in determining Low Bidder for this On-Call Public Works Contract
- L. A "Sub-Bidder" is a person or entity of any tier who submits a bid or proposal to or through the Bidder for materials, equipment or labor for a portion of the Work.

1.02 BIDDER'S REPRESENTATIONS

By making its Bid, each Bidder represents that:

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 21 00 - INSTRUCTIONS TO BIDDERS

- A. **BIDDING DOCUMENTS.** The Bidder has read and understands the Bidding Documents, and its Bid is made in accordance with them.
- B. **BASIS.** Its Bid is based upon the materials, systems, services, and equipment required by the Bidding Documents, and is made without exception.
- C. **EXAMINATION.** The Bidder has carefully examined and understands the Bidding Documents, the Contract Documents (including, but not limited to, any liquidated damages and insurance provisions), and the potential Project sites, including any existing buildings, it has familiarized itself with the local conditions under which the Work is to be performed and has correlated its observations with the requirements of the proposed Contract Documents and it has satisfied itself as to the nature, location, character, quality and quantity of the Work, the labor, materials, equipment, goods, supplies, work, services and other items to be furnished, and all other requirements of the Contract Documents.
- D. The Bidder has also satisfied itself as to the conditions and other matters that may be encountered at the potential Project sites or affect performance of the Work or the cost or difficulty thereof, including but not limited to those conditions and matters affecting: transportation, access, disposal, handling and storage of materials, equipment and other items; availability and quality of labor, water, electric power and utilities; availability and condition of roads; climatic conditions and seasons; physical conditions at the Project site and the surrounding locality; topography and ground surface conditions; and equipment and facilities needed preliminary to and at all times during the performance of the Work. The failure of the Bidder fully to acquaint itself with any applicable condition or matter shall not in any way relieve the Bidder from the responsibility for performing the Work in accordance with, and for the Unit Prices and within the Contract Time provided for in, the Contract Documents.
- E. **PROJECT MANUAL.** The Bidder has checked its copies of the project manual (if any) with the table of contents bound therein to ensure the project manual is complete.
- F. **SEPARATE WORK.** The Bidder has examined and coordinated all Drawings, Contract Documents, and Specifications with any other contracts to be awarded separately from, but in connection with, the Work being Bid upon, so that the Bidder is fully informed as to conditions affecting the Work under the Contract being Bid upon.
- G. **LICENSE REQUIREMENTS.** Bidders and Sub-Bidders shall be registered and shall hold such licenses as may be required by the laws of Washington, including a certificate of registration in compliance with RCW 18.27, for the performance of the Work specified in the Contract Documents.
- H. **NO EXCEPTIONS.** Bids must be based upon the materials, systems and equipment described and required by the Bidding Documents, without exception.

1.03 BIDDING DOCUMENTS

- A. **COPIES**
 - 1. **Bidding Documents.** Bidders may obtain complete sets of the Bidding Documents from the Port's website at www.portoftacoma.com then 'Contracts' 'Procurement' and then find the project number and title.
 - 2. **Holder's List.** Subscribe to the Holder's List for this procurement by clicking on the 'Holder's List' icon then typing in the contact email address to receive updates and clicking 'Submit'. Following the Submit, a screen will come up to verify subscription. From there, select 'Subscriber Preferences' and then 'Questions' (the 3rd tab). Fill out all information in the questions section and the select 'Submit' and this will complete the registration to the

Port's Holder's List for this procurement. Step by Step directions are available at:
<http://portoftacoma.com/contracts/procurement>.

3. Complete Sets. Bidders shall use complete sets of Bidding Documents in preparing Bids and are solely responsible for obtaining updated information. The Port does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete and/or superseded sets of Bidding Documents.
4. Conditions. The Port makes copies of the Bidding Documents available only for the purpose of obtaining Bids on the Work and does not confer a license or grant permission for any other use.
5. Legible Documents. To the extent any Drawings, Specifications, or other Bidding Documents are not legible, it is the Bidder's responsibility to obtain legible documents.

B. INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

1. Format. The Contract Documents are divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the Specification sections into Work performed by the various building trades, any Work by separate contractors, or any Work required for separate facilities in or phases of the Project.
2. Duty to Notify. Bidders shall promptly notify the Port in writing of any ambiguity, inconsistency, or error that they may discover upon examination of the Bidding Documents or of the site and local conditions.
3. Products and Installation. All Bidders shall thoroughly familiarize themselves with specified products and installation procedures and submit to the Port any objections (in writing) no later than seven (7) days prior to the Bid Date. The submittal of the Bid constitutes acceptance of products and procedures specified as sufficient, adequate, and satisfactory for completion of the Contract.
4. **Written Request.** Bidders requiring clarification or interpretation of the Bidding Documents shall make a **written email request to procurement@portoftacoma.com at least seven (7) days prior to the Bid Date.**
5. **Request to Modify Responsibility Criteria.** No later than seven (7) days prior to the Bid Date, a potential Bidder may request in writing that the Port modify the Responsibility Criteria. The Port will evaluate the information submitted by the potential Bidder and respond before the Bid Date. If the evaluation results in a change of the Criteria, the Port will issue an Addendum identifying the new Criteria.
6. Addenda. The Bidder shall not rely on oral information provided at any pre-Bid meetings or during site visits. Verbal statements made by representatives of the Port are for informational purposes only. Any interpretation, correction or change of the Bidding Documents will be made solely by written Addendum. Interpretations, corrections or changes of the Bidding Documents made in any manner other than by written Addendum, including but not limited to oral statements, interpretations, corrections or changes. The Port is not responsible for explanations or interpretations of the Bidding Documents other than in a written Addendum.
7. Singular References. Reference in the singular to an article, device, or piece of equipment shall include as many of such articles, devices, or pieces as are indicated in the Contract Documents or as are required to complete the installation.

8. Utilities and Runs. The Bidder should assume that the exact locations of any underground or hidden utilities, underground fuel tanks, and plumbing and electrical runs may be somewhat different from any location indicated in the surveys or Contract Documents.

C. ADDENDA

1. Distribution. All Addenda will be written and will be posted to the Port's project website for this bid: www.portoftacoma.com, then under 'Contracts', 'Procurement' and then select the Contract Number (070131). Only those who have signed up for the Holder's List through the Port's website will get the automatic emails when new project information is posted for this procurement.
2. Copies. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
3. Verification and Acknowledgment of Receipt. Prior to submitting a Bid, each Bidder shall ascertain that it has received all Addenda issued. Each Bidder shall acknowledge its receipt and consideration of all Addenda in its Bid.

1.04 BIDDING PROCEDURE

A. FORM AND STYLE OF BIDS

1. Form. Bids (including required attachments) shall be submitted on forms identical to the Bid Form included with the Bidding Documents. No oral, email, or telephonic responses or modifications will be considered.
2. Entries on the Bid Form. All blanks on the Bid Form shall be filled in by typewriter, printer, or manually in ink.
3. Figures. All sums shall be expressed in figures, not words. Portions of the Bid Form may require the addition or multiplication of components bids to a total or the identification of component amounts within a total. In case of discrepancy between unit prices listed and their sum(s), the unit prices listed shall govern (rather than the sum).
4. Initial Changes. Any interlineation, alteration or erasure shall be initialed by an authorized representative of the Bidder.
5. Bid Breakdown. The Bid Form may contain, for the Port's accounting purposes only, a breakdown of some or all of the components included in the Base Bid.
 - a. For lump sum bids the total Contract Sum shall be submitted.
 - b. For unit price bids a price shall be submitted for each item of the Work, an extension thereof, and, if requested, the total Contract Sum.
6. Schedule of Unit Prices. All Unit Prices under this schedule shall be bid. The Port reserves the right, but is not obligated to, reject any Bid on which all requested Schedule of Unit Prices are not bid.
7. No Conditions. The Bidder shall make no conditions or stipulations on the Bid Form nor qualify its Bid in any manner.
8. Identity of Bidder. The Bidder shall include in the specified location on the Bid Form the legal name of the Bidder and, if requested, a description of the Bidder as a sole proprietor, a partnership, a joint venture, a corporation, or another described form of legal entity. The Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract.

- a. The Port verifies signature authority on the Labor and Industries website <https://fortress.wa.gov/lni/bbip/Search.aspx> under the contractor registration business owner information. If the business owner information is not current the bidder shall show proof of authority to sign at the request of the Port. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder
9. Bid Amounts Do Not Include Sales Tax. The Work to be performed constitutes a "retail sale" as this term is defined in RCW 82.04.050. Thus, the Base Bid amount shall include in the sum stated all taxes imposed by law, EXCEPT WASHINGTON STATE AND LOCAL SALES TAX. The engaged Contractor will pay retail sales tax on all consumables used during the performance of the Work and on all items that are not incorporated into the final Work; this tax shall be included in the Base Bid price and in any other prices set forth on the Bid Form. The Port will pay state and local retail sales tax on each progress payment and final payment to the engaged Contractor for transmittal by the Contractor to the Washington State Department of Revenue or to the applicable local government.

B. BID SECURITY

1. Purpose and Procedure. Each Bid shall be accompanied by Bid security payable to the Port in the form required by the Bidding Documents and equal to five percent (5%) of the Base Bid only (i.e., not including any Alternates or Unit Prices). The Bid security constitutes a pledge by the Bidder to the Port that the Bidder will enter into the Contract with the Port in the form provided, in a timely manner, and on the terms stated in its Bid, and will furnish in a timely manner the payment and performance bonds, certificates of insurance, and all other documents required in the Contract Documents. Should the Bidder fail or refuse to enter into the Contract or fail to furnish such documents, the amount of the Bid security shall be forfeited to the Port as liquidated damages, not as a penalty. By submitting a Bid, each Bidder represents and agrees that the Bid security, if forfeited, is a reasonable prediction on the Bid Date of future damages to the Port.
2. Form. The Bid security shall be in the form of a certified or bank cashier's check payable to the Port or a Bid bond executed by a bonding company reasonably acceptable to the Port licensed in the State of Washington, registered with the Washington State Insurance Commissioner, possess and A.M. Best rating of "A minus, Fiscal Size Category (FSC) (6) or better and be authorized by the U.S. Department of the Treasury. The Bid security shall be signed by the person or persons legally authorized to bind the Bidder. Bid bonds shall be submitted using the form included with the Bidding Documents.
3. Retaining Bid Security. The Port will have the right to retain the Bid security of Bidders to whom an Award is being considered until the earliest of either (a) mutual execution of the Contract, and the Port's receipt of payment and performance bonds, or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) when all Bids have been rejected.
4. Return of Bid Security. Within sixty (60) days after the Bid Date, the Port will release or return Bid securities to Bidders who's Bids are not to be further considered in Awarding the Contract. Bid securities of the three apparent low Bidders will be held until the Contract has been finally executed, after which all unforfeited Bid securities will be returned. Bid security may be returned in the form provided or by separate payment.

C. SUBMISSION OF BIDS

1. **Procedure.** The Bid, the Bid security, and other documents required to be submitted with the Bid shall be enclosed in a sealed envelope identified with the Project name and number and the Bidder's name and address. If the Bid is sent by mail the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face of the mailing envelope.
 - a. If a Bid is mailed, it shall be addressed to the Port of Tacoma, Contracts Department, One Sitzcum Plaza, Tacoma, WA 98421.
 - b. If a Bid is delivered, it shall be delivered to the Front Reception Desk, Port of Tacoma, One Sitzcum Plaza, Tacoma, WA 98421.
 - c. The time stamp clock at the Front Reception Desk at One Sitzcum Plaza is the Port's official clock.
2. **Deposit.** Bids shall be deposited at the designated location prior to the Bid Date indicated in the Advertisement or Invitation to Bid, or any extension thereof made by Addendum. Bids received after the Bid Date and time specified shall be returned without consideration at the discretion of the Port or rejected at the time of receipt.
3. **Delivery.** The Bidder assumes full responsibility for timely delivery at the location designated for receipt of Bids.
4. **Form.** Oral, facsimile, telephonic, electronic, or email Bids are invalid and will not be considered.

D. MODIFICATION OR WITHDRAWAL OF BID

1. **After the Bid Date.** A Bid may not be modified, withdrawn or canceled by the Bidder during a sixty (60) day period following the Bid Date, and each Bidder so agrees by virtue of submitting its Bid.
2. **Before the Bid Date.** Prior to the Bid Date, any Bid submitted may be modified or withdrawn only by notice to the party receiving Bids at the place designated for receipt of Bids. The notice shall be in writing with the signature of the Bidder and shall be worded so as not to reveal the amount of the original Bid. Email notice will not be accepted. It shall be the Bidder's sole responsibility to verify that the notice has been received by the Port in time to be withdrawn before the Bid opening.
3. **Resubmittal.** Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.
4. **Bid Security with Resubmission.** Bid security shall be in an amount sufficient for the Bid as modified or resubmitted.

E. COMMUNICATIONS

1. Communications from a Bidder related to these Instructions to Bidders must be in writing to procurement@portoftacoma.com. Communications, including but not limited to notices and requests, by Sub-Bidders shall be made through the Bidder and not directly by a Sub-Bidder to the Port.

1.05 CONSIDERATION OF BIDS

- A. OPENING OF BIDS: Unless stated otherwise in the Advertisement or Invitation to Bid or an Addendum, the properly identified Bids received on time will be opened publicly and will be read aloud. An abstract of the Base Bids and any Alternate Bids will promptly (and generally within 24 hours) be made available to Bidders and other interested parties.
- B. REJECTION OF BIDS: The Port shall have the right but not the obligation to reject any or all Bids for any reason or for no reason, to reject a Bid not accompanied by the required Bid security, or to reject a Bid which is in any way incomplete or irregular.
- C. BIDDING MISTAKES: The Port will not be obligated to consider notice of claimed Bid mistakes received more than 24 hours after the Bid Date. In accordance with Washington law, a low Bidder that claims error and fails to enter into the Contract is prohibited from Bidding on the Project if a subsequent call for Bids is made for the Project.
- D. ACCEPTANCE OF BID (AWARD)
 1. Intent to Accept. The Port intends (but is not bound) to Award a Contract to the Responsible Bidder with the lowest responsive Bid, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Port has the right to waive any informality or irregularity in any Bid(s) received and to accept the Bid which, in its judgment, is in its own best interests.
 2. Requirements for Award. Before the Award, the lowest responsive Bidder must be deemed Responsible by the Port and must satisfy all Award Requirements.
- E. BID PROTEST PROCEDURES
 1. Procedure. A Bidder protesting for any reason the Bidding Documents, a Bidding procedure, the Port's objection to a Bidder or a person or entity proposed by the Bidder, including but not limited to a finding of non-Responsibility, the Award of the Contract or any other aspect arising from or relating in any way to the Bidding shall cause a written protest to be filed with the Port within two (2) business days of the event giving rise to the protest. (Intermediate Saturdays, Sundays, and legal holidays are not counted as business days.) The written protest shall include the name of the protesting Bidder, the bid solicitation number and title under which the protest is submitted, a detailed description of the specific factual and legal grounds for the protest, copies of all supporting documents, evidence that the apparent low bidder has been given notice of the protest, and the specific relief requested. The written protest shall be sent by email to procurement@portoftacoma.com.
 2. Consideration. Upon receipt of the written protest, the Port will consider the protest. The Port may, within three (3) business days of the Port's receipt of the protest, provide any other affected Bidder(s) the opportunity to respond in writing to the protest. If the protest is not resolved by mutual agreement of the protesting Bidder and the Port, the Contracts Director of the Port or his or her designee will review the issues and promptly furnish a final and binding written decision to the protesting Bidder and any other affected Bidder(s) within six (6) business days of the Port's receipt of the protest. (If more than one (1) protest is filed, the Port's decision will be provided within six (6) business days of the Port's receipt of the last protest.) If no reply is received from the Port during the six (6) business-day period, the protest will be deemed rejected.
 3. Waiver. Failure to comply with these protest procedures will render a protest waived.
 4. Condition Precedent. Timely and proper compliance with and exhaustion of these protest procedures shall be a condition precedent to any otherwise permissible judicial consideration of a protest.

1.06 POST BID INFORMATION

A. THE LOWEST RESPONSIVE BIDDER SHALL:

1. Responsibility Detail Form. Within 24 hours of the Low Responsive Bidder Selection Notification, the apparent low Bidder shall submit to the Port the Responsibility Detail Form (Section 00 45 13) executed by an authorized company officer with all accompanied attachments as noted in the form. As requested from the Port, the low, responsive Bidder shall provide written confirmation that the person signing the Bid on behalf of the Bidder was duly authorized at the time of bid, a detailed breakdown of the Bid in a form acceptable to the Port, and other information required by the Port.
2. Within ten (10) days after the Port's Notice of Award of the Contract, the apparent low Bidder shall also submit to the Port, as requested:
 - a. additional information regarding the use of the Bidder's own forces and the use of subcontractors and suppliers;
 - b. the names of the persons or entities (including a designation of the Work to be performed with the Bidder's own forces, and the names of those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work (i.e., either a listed Sub-Bidder or a Sub-Bidder performing Work valued at least ten percent (10%) of the Base Bid), consistent with the listing required with the Bid; and
 - c. the proprietary names and the suppliers of the principal items or systems of materials and equipment proposed for the Work.
3. Failure to provide any of the above information in a timely manner will constitute an event of breach permitting forfeiture of the Bid security.
4. Bidder Responsibility. The Bidder will be required to establish to the satisfaction of the Port the reliability and Responsibility of itself and the persons or entities proposed to furnish and perform the Work described in the Bidding Documents. If requested, the Bidder shall meet with the Port to discuss the Bid, including any pricing, the Bid components, and any assumptions made by the Bidder.
5. Sub-Bidder Responsibility. The Responsibility of the Bidder may be judged in part by the Responsibility of Sub-Bidders. Bidders must verify the Responsibility Criteria for each first-tier Sub-Bidder. A Sub-Bidder of any tier that hires other Sub-Bidders must verify Responsibility Criteria for each of its lower-tier Sub-Bidders. The verification shall include a representation that each Sub-Bidders, at the time of subcontract execution, is Responsible and possesses required licenses.
6. Objection. Prior to an Award of the Contract, the Port will notify the Bidder in writing if the Port, after due investigation, has reasonable objection to the Bidder or a person or entity proposed by the Bidder. Upon receiving such objection, the Bidder may, at Bidder's option, (1) withdraw their Bid, (2) submit an acceptable substitute person or entity with no change in the Contract Time and no adjustment in the Base Bid or any Alternate Bid, even if there is a cost to the Bidder occasioned by such substitution, or (3) file a protest in accordance with the Bidding Documents.
7. Change. Persons and entities proposed by the Bidder to whom the Port has made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Port.

8. Right to Terminate. The Bidder's representations concerning its qualifications will be construed as a covenant under the Contract. If a Bidder makes a material misrepresentation on a Qualification Statement, the Port has the right to terminate the Contract for cause and may then pursue any remedies that exist under the Contract or that are otherwise available.
- B. INFORMATION FROM OTHER BIDDERS: All other Bidders designated by the Port as under consideration for Award of a Contract shall also provide a properly executed Qualification Statement, if so requested by the Port.

1.07 PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND, AND INSURANCE

- A. BOND REQUIREMENTS: Within ten (10) days after the Port's Notice of Award of the Contract, the successful Bidder shall obtain and furnish statutory bonds pursuant to RCW 39.08 covering the faithful performance of the Contract and the payment of all obligations arising thereunder in the form and amount prescribed in the Contract Documents. The cost of such bonds shall be included in the Base Bid.
- B. TIME OF DELIVERY AND FORM OF BONDS: The successful Bidder shall deliver an original copy of the required bonds to the Port, 1 Sitcum Plaza, Tacoma, WA 98421, within the time specified in the Contract Documents.
- C. INSURANCE: a certificate of insurance from the Bidder's insurance company that meets or exceeds all requirements of the Contract Documents;
- D. GOVERNMENTAL REQUIREMENTS: Notwithstanding anything in the Bidding or Contract Documents to the contrary, the Bidder shall provide all bonding, insurance and permit documentation as required by governmental authorities having jurisdiction for any portions of the Project.

1.08 FORM OF AGREEMENT

- A. FORM TO BE USED: The Contract for the Work will be written on the form(s) contained in the Bidding Documents, including any General, Supplemental or Special Conditions, and the other Contract Documents included with the project manual.
- B. CONFLICTS: In case of conflict between the provisions of these Instructions and any other Bidding Document, these Instructions shall govern. In case of conflict between the provisions of the Bidding Documents and the Contract Documents, the Contract Documents shall govern.
- C. CONTRACT DELIVERY. Within ten (10) days after Notice of Award, the Bidder shall submit a signed Contract to the Port in the form tendered to the Bidder and without modification.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

BIDDER'S NAME: _____

PROJECT TITLE: ON-CALL EARTHWORKS 2016-2018 _____

Contractor bids to furnish all the labor, materials, equipment, superintendence, insurance, performance bond, payment bond, safety requirements, and other accessories and services necessary to estimate, perform, and complete all of the work required by and in strict accordance with the project documents and the implied intent thereof, for the dollar values as identified in the following Schedule of Unit Prices. Contractor shall allocate overhead, insurance, fees, profit and all project costs to Unit Prices as deemed appropriate. **All Contract costs shall be reflected in the Schedule of Unit Prices.**

The following **Schedule of Unit Prices** is a list of work items and quantities that will be used for calculating a total amount in order to determine the low Bidder. The methodology being utilized includes unit quantities that will be applied to the Schedule of Unit Prices supplied by the Bidder. The Bidder shall write its loaded unit prices, extension calculations and the total bid price. After the bid opening, the Port will verify mathematical accuracy with respect to the extensions of unit bid prices and the total bid price. The Contract shall be awarded to the lowest responsible and responsive Bidder. The stated unit bid quantities will specifically not be a part of the resultant Contract Documents. The Port does not represent or warrant to the Bidder that the actual work provided under this Contract (if any) will be consistent with unit quantities that may be assigned by the Port for purposes of determining the low Bidder. On the contrary, the actual work provided under this Contract (if any) may vary substantially from the unit quantities assigned by the Port for purposes of determining the basis of award, and the winning Bidder shall not be entitled to any adjustment in its unit prices as a result of any variation, no matter how significant, between actual unit quantities and those used for purposes of determining the basis of award.

Schedule of Unit Prices:

Item No.	Equivalent	Description of Item	UOM	Unit Bid Quantities	Unit Prices	Extension Amounts
1		Mobilization and Demobilization	EA	14		
2	EX120 or equal	Excavator +/- 12.5MT (.75CY)	HR	48		
3	EX225 or equal	Excavator +/- 24MT (1.5CY)	HR	16		
4	EX350 or equal	Excavator +/- 35MT (2.5CY)	HR	36		
5		In / Out Costs for 2, 3, or 4	EA	8		
6	JD444 or equal	Wheel Loader +/- 130HP (2.5CY)	HR	72		
7	JD544 or equal	Wheel Loader +/- 145HP (3.0CY)	HR	76		
8	Cat275 or equal	Track Loader +/- 57HP (Skid Steer)	HR	16		
9		In / Out Costs for 6, 7 or 8	EA	6		
10	JD450 or equal	Crawler Dozer +/- 70HP	HR	24		
11	JD700 or equal	Crawler Dozer +/- 115HP	HR	60		
12		In / Out Costs for 10 or 11	EA	2		

Division 00 - Procurement and Contracting Requirements
 Section 00 41 00 - BID FORM

Item No.	Equivalent	Description of Item	UOM	Unit Bid Quantities	Unit Prices	Extension Amounts
13	Huber 850A or equal	Rigid Frame Grader	HR	8		
14	JD772 or equal	Articulated Grader 230HP	HR	76		
15		In / Out Costs for 13 or 14	EA	3		
16	JD310 or equal	4WD Loader/Backhoe 89HP	HR	12		
17		Hoe Pack for item 16	HR	12		
18		Hydraulic Breaker for item 16	HR	12		
19		In / Out Costs 16	EA	1		
20	CA121D or equal	Single Drum Vibratory Roller +/-54" Drum	HR	8		
21	CA152D or equal	Single Drum Vibratory Roller +/-66" Drum	HR	68		
22	CA602D or equal	Single Drum Vibratory Roller +/-84" Drum	HR	16		
23		In / Out Costs for 20, 21 or 22	EA	4		
24	185CFM or equal	Compressor with breaker or hammer	HR	8		
25		In / Out Costs for 24	EA	1		
26		Street Sweeper	HR	2		
27		Dump Truck, Solo (10 CY)	HR	32		
28		Dump Truck and Trailer	HR	238		
29		Vac Truck	HR	40		
30		Water Truck	HR	24		
31		Laborer	HR	564		
32		Foreman with Tool Truck	HR	412		
33		Superintendent	HR	58		
34		Project Manager	HR	10		
35		Bankrun Gravel, Class "B"	TON	80		
36		Crushed Rock (gradation as required)	TON	60		

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 Section 00 41 00 - BID FORM

Item No.	Equivalent	Description of Item	UOM	Unit Bid Quantities	Unit Prices	Extension Amounts
37		Quarry Spalls	TON	50		
38		Adjust Manhole, Catch Basin, or Hatch	EA	3		
39		Geosynthetic Material	SY	500		
40		Surface Stabilization	SY	100		
41		Temporary Erosion Control Blanket	SY	80		
42		Clear Plastic Covering	SY	80		
43		Check Dam (10 Ft. Length)	EA	1		
44		Inlet Protection	EA	2		
45		Oil Sausage Boom, 10 Ft. Length	EA			
46		Wattles, 10 Ft. Length	EA			
47		35 lb Sandbags, filled	EA	3		
48		Silt Fence	LF	84		
49		To waste disposal site, dirt	TON	277		
50		To waste disposal site, concrete	TON	227		
51		To waste disposal site, wood debris & trash	TON	20		
52		To Port site, dirt	CY	20		
53		To Port site, concrete	CY	60		
54		To Port site, wood debris & trash	CY	10		
55		Use of 4x4 Truck with plow and driver	HR	36		
56		Use of dump truck (10 CY) with plow and driver	HR	24		
57		Use of front end loader with plow and driver	HR	24		
58		Use of grader with driver	HR	24		
59		Survey	HR	8		
60		Stormwater Pollution Prevention Plan	EA	14		

Division 00 - Procurement and Contracting Requirements
Section 00 41 00 - BID FORM

Item No.	Equivalent	Description of Item	UOM	Unit Bid Quantities	Unit Prices	Extension Amounts
61		61 HMA ½" Class B (PG 64-22).	TON	80		
62		Portland Concrete Cement 24 Hour Pavement Patch	CY	36		
TOTAL BID PRICE:						

Note: All Unit prices must be filled in with numbers. If there is no charge for an item, mark with a zero.

Addenda. Bidder acknowledges review of all Addenda through No. _____.

Contract Time. The contract period of performance will be 730 Days (2 years), commencing at the date of Execution of the Agreement or until the amount of the contract has been exhausted, whichever occurs first.

Noncollusion. The undersigned declares under penalty of perjury that the bid submitted is a genuine and not a sham or collusive bid, or made in the interest or on behalf of any person or firm not therein named; and further says that the said bidder has not directly or indirectly induced or solicited any bidder on the above work or supplies to put in a sham bid, or any other person or corporation to refrain from bidding; and that said bidder has not in any manner sought by collusion to secure to the bidder an advantage over any other bidder or bidders.

Name of Firm _____ Date _____

Authorized Signature (00 21 00 2.04 A) By (Type or Print) Title

Email Address Phone Number

Employment Security Dept No. Federal Tax Id No. UBI No.

END OF SECTION

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 43 13 - BID SECURITY FORM

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety, are held and firmly bound unto the PORT OF TACOMA as Obligee, in the penal sum of _____ Dollars, for the payment of which the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these present.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for _____, according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with Surety or Sureties approved by the Obligee; or, if the principal shall, in case of failure to do so, pay and forfeit to the Obligee the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the Surety shall forthwith pay and forfeit to the Obligee, as penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS _____ day of _____, 20____

BY _____
Principal

BY _____
Surety

Agent and Address

Note: Bidder may submit Surety's bid bond form, provided it is similar in substance, made out in the name of the Port of Tacoma, and that the agent's name and address appear as specified. Bonds containing riders limiting responsibility for toxic waste or limiting the term of responsibility will be rejected.

END OF SECTION

The low responsive Bidder shall be required to complete this Responsibility Detail Form as specified in Section 00 21 00 – Instructions to Bidders. **This completed Responsibility Detail Form shall be submitted electronically (pdf) via email to the Contact(s) identified in the Low Responsive Bidder Selection Notification. THIS IS NOT TO BE SUBMITTED WITH A BID.**

Bidder's Company Name: _____

For the below Mandatory Bidder Responsibility Criteria, please check the appropriate box.

1.0 MANDATORY BIDDER RESPONSIBILITY CRITERIA

- A. The Bidder shall meet the following mandatory responsibility criteria as described in RCW 39.04.350(1). The Bidder shall be rejected as not responsible if any answer to questions 1 through 5 is "No" or any answer to questions 6 through 8 is "Yes".
 1. Does the Bidder have a Certificate of Registration in compliance with RCW 18.27?
 Yes No
 2. Does the Bidder have a current Washington State Unified Business Identifier number?
 Yes No
 3. Does the Bidder have Industrial Insurance Coverage for the Bidder's employees working in Washington State as required in RCW 51?
 Yes No
 4. Does the Bidder have an Employment Security Department number as required in RCW 50?
***Attach letter dated within 6 months of bid opening date from publicworks@esd.wa.gov.**
 Yes No
 5. Does the Bidder have a Washington State Excise Tax Registration number as required in RCW 82?
 Yes No
 6. Has the Bidder been disqualified from bidding on any public works project under RCW 39.06.010 or 39.12.065(3)?
 Yes No
 7. Has the Bidder violated RCW 39.04.370 more than one time as determined by the Washington State Department of Labor and Industries?
 Yes No
 8. Has the Bidder ever been found to be out of compliance with Apprenticeship Utilization requirements of RCW 39.04.320?
 Yes No

If any answer to questions 1 through 5 is "No" or any answer to questions 6 through 8 is "Yes" - **STOP HERE** and contact the Contract Administrator. The Bidder is not responsible for this Work. Otherwise proceed to 1.1. **Provide attached to this completed form documentation to confirm responsibility criteria.**

For remaining criteria below, check or fill-out the appropriate box. Based upon the answer provided by the Bidder, the Port may request additional information or seek further explanation. As needed, provide backup documentation for any explanations listed below.

1.1 CONTRACT AND REGULATORY HISTORY

A. The Port will evaluate whether the Bidder's contract and regulatory history demonstrates an acceptable record of past project performance and consistent responsibility. The Bidder shall answer the following questions. The Bidder may be rejected as not responsible if any answer to questions 1 through 5 below is "Yes".

1. Has the Bidder had a contract terminated for cause or default, in the last 5 years?

Yes No **If YES, explain below.**

2. Has the Bidder required a Surety to take over all, or a portion of, a project to cure or respond to an asserted default or material breach of contract on the part of the Bidder on any public works project, in the last 5 years?

Yes No **If YES, explain below.**

3. Have the Bidder and major Sub-Bidders been in bankruptcy, reorganization and/or receivership on any public works project, in the last 5 years?

Yes No **If YES, explain below.**

4. Have the Bidder and major Sub-Bidders been disqualified by any state or local agency from being awarded and/or participating on any public works project, in the last 5 years?

Yes No **If YES, explain below.**

5. Are the Bidder and major Sub-Bidders currently a party to a formal dispute resolution process with the Port—i.e., a pending mediation, arbitration or litigation.

Yes No **If YES, explain below.**

1.2 ACCIDENT/INJURY EXPERIENCE

- A. The Port will evaluate the Bidder's accident/injury Experience Modification Factor ("EMF") from the Washington State Department of Labor and Industries to assess whether the Bidder has an acceptable safety record preventing personal injuries on projects.
- B. List the Bidder's accident/injury EMF for the last five (5) years. An experience factor is calculated annually by the Washington State Department of Labor and Industries.

Year	Effective Year	Experience Factor
1		
2		
3		
4		
5		

If the Bidder has received an EMF of greater than 1.0 for any year, explain the cause(s) of the designation and what remedial steps were taken to correct the EMF. The Bidder may be rejected as not responsible if the Bidder's EMF is greater than 1.0 and sufficient remedial steps have not been implemented.

1.3 WORK PERFORMED BY BIDDER

- A. The Bidder shall state the amount of the Contract Work, as an equivalent to the Total Bid Price, excluding taxes, insurance and bonding, the Bidder will execute with its own forces.

_____ %

1.4 PROJECT EXAMPLE SHEETS

- A. As part of completing this Responsibility Detail Form, **submit the following information with the completed Responsibility Detail Form:**
 1. Bidder's recent job resume including a list of similar projects performed and contact information for the similar project Owner(s).
 2. Resumes of bidder's proposed project manager and job superintendent.
- B. The Bidder's failure to provide the required project information may result in a determination of the Bidder being declared non-responsible by the Port.
- C. The Bidder shall submit this completed, **SIGNED** Responsibility Detail Form electronically (PDF), with all requested backup documentation, via email to the Contact(s) noted on the Low Responsive Bidder Selection Notification.

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 45 13 – RESPONSIBILITY DETAIL FORM

PROJECT: _____

PROJECT NO. _____

CONTRACT NO. _____

Responsibility Certification Form

The Low responsive Bidder shall complete the Responsibility Detail Form, attach all documentation and submit to the Port within 24 hours following receipt of the Low, Responsive Bidder Selection Notification. All forms shall be submitted electronically (PDF) via email to the contact(s) listed on the Selection Notice. Note, the same project may be used to demonstrate experience across multiple categories if applicable.

By completing and signing this Responsibility Detail Form, the Bidder is certifying that the information contained within the form, and the backup documentation, and any additional information requested by the Port is true and complete. The Bidder's failure to disclose the required information or the submittal of false or misleading information may result in the rejection of the Bidder's bid, revocation of award or contract termination.

The information provided herein is true and complete.

Signature of Authorized Representative

Date

Print Name and Title

AGREEMENT BETWEEN PORT AND CONTRACTOR

THIS AGREEMENT is made and entered into by and between the **PORT OF TACOMA**, a State of Washington municipal corporation, hereinafter designated as the "Port," and:

The "Contractor": _____ **(Legal Name)**

_____ **(Address)**
_____ **(Address 2)**
_____ **(Phone No.)**

The “**Contractor’s representative**” is: _____ **(Representative)**

_____ **(Title)**
_____ **(Email)**
_____ **(Phone No.)**

BACKGROUND AND REPRESENTATIONS:

The Port has caused Drawings, Specifications, and other Contract Documents to be prepared for the performance of On-Call Services.

The Port publicly solicited bids on the Contract Documents. The Contractor submitted a bid to the Port on the _____ day of _____, 20____ to perform On-Call Services Work.

The Contractor represents that it has the personnel, experience, qualifications, capabilities, and means to accomplish the Work in strict accordance with the Contract Documents, within the Contract Time and for the Contract Price, and that it and its Subcontractors satisfy the responsibility criteria set forth in the Contract Documents, including any supplemental responsibility criteria.

The Contractor further represents that it has carefully examined and is fully familiar with all provisions of the Contract Documents, including any Addenda, that it has fully satisfied itself as to the nature, location, difficulty, character, quality, and quantity of the Work required by the Contract Documents and the conditions and other matters that may be encountered at or near the Project site(s), or that may affect performance of the Work or the cost or difficulty thereof including all applicable safety and site responsibilities, and that it understands and can satisfy all scheduling and coordination requirements and interim milestones.

AGREEMENT:

The Port and the Contractor agree as follows:

1.0 CONTRACTOR TO FULLY PERFORM THE WORK

The Contractor shall fully execute and complete the entire Work described in the Contract Documents, except to the extent specifically indicated in the Agreement, the General Conditions of the Contract (as well as any Supplemental, Special or other Conditions included in the project manual), the Executed Task Orders under this Contract, the Drawings, the Specifications, and all Addenda issued prior to, and all modifications issued after, execution of the Contract.

2.0 DATE OF COMMENCEMENT

The date of commencement of the Work, which is the date from which the Contract Time is measured, shall be fixed as the date this agreement is executed. Each Task Order shall have a date for completion from which time is measured.

3.0 CONTRACT TIME AND LIQUIDATED DAMAGES

The Contractor shall achieve all interim completion as set forth in executed task orders and Final Completion of the entire Contract not later than **730 calendar days** from contract execution, subject to adjustments of this Contract Time as provided in the Contract Documents, or until all funds are depleted, whichever comes first.

Provisions for liquidated damages as a reasonable estimate of future loss, are included in the Contract Documents. The parties agree that the stated liquidated damages are not penalties individually or cumulatively.

The liquidated damages for failure to achieve Substantial Completion, based on the executed Task Order by the prescribed Task Order date shall be determined at time of Task Order Proposal and Execution and, if any, will appear on the executed Task Order.

Liquidated damages assessed by the Port will be deducted from monies due to the Contractor, or from monies that will become due to the Contractor. The liquidated damages, as specified and calculated in each executed task order, shall be levied for each and every calendar day that Substantial Completion of the work is delayed beyond the prescribed completion date, or the completion date modified by the Port for extensions of the task order time.

4.0 CONTRACT PRICE

In accordance with the Contractor's bid dated [], the Port shall pay the Contractor in current funds for the Contractor's performance of the Contract the Contract Price of _____ dollars (\$), subject to additions and deductions as provided in the Contract Documents. State and local sales tax is not included in the Contract Price but will be due and paid by the Port with each progress payment.

5.0 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in the Contract Documents.

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 52 00 - AGREEMENT FORM

This Agreement is entered into as of the execution date written below:

CONTRACTOR

By: _____

Title: _____

Date _____

PORT OF TACOMA

By: _____

Title: _____

Execution
Date _____

END OF SECTION

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 13.13 - PERFORMANCE BOND

PERFORMANCE BOND # _____	
CONTRACTOR (NAME AND ADDRESS) <hr/> <hr/> <hr/>	SURETY (NAME AND PRINCIPLE PLACE OF BUSINESS) <hr/> <hr/> <hr/>
OWNER (NAME AND ADDRESS) <hr/> <hr/> <hr/>	AGENT OR BROKER (FOR INFORMATION ONLY) <hr/> <hr/> <hr/>
PORT OF TACOMA P.O. BOX 1837 TACOMA, WA 98401-1837 <hr/>	

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto the Port of Tacoma as Obligee, hereinafter called the Port, in the amount of _____ Dollars (\$_____) for the payment whereof Contractor and Surety bind themselves, their executors, administrators, legal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS:

Contractor has executed an agreement with the Port dated _____ for _____ a copy of which Contract is by reference made a part hereof (the term "Contract" as used herein to include the aforesaid agreement together with all the Contract Documents, addenda, modifications, all alterations, additions thereto, deletions therefrom and any other document or provision incorporated into the Contract) and is hereinafter referred to as the Contract.

This bond is executed and issued pursuant to the provisions of Chapter 39.08 Revised Code of Washington.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

FURTHER:

- A. Surety hereby waives notice of any alterations, change orders, modifications or extensions of time made by the Port.
- B. Surety recognizes that the Contract includes provisions for additions, deletions and modifications to the work or Contract Time and the amounts payable to the Contractor. Subject to the limitations contained in (A) above, Surety agrees that no such addition, deletion, or modification, or any combination thereof, shall avoid or impair Surety's obligation hereunder.
- C. Whenever Contractor has been declared by the Port to be in default, and the Port has given Surety notice of the Port's determination of such default, Surety shall promptly (in no event more than fifteen (15) days following receipt of such notice) advise the Port of its intended action to:
 1. Remedy the default within fifteen (15) days following its advice to the Port as set forth above, or

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 13.13 - PERFORMANCE BOND

2. Assume within fifteen (15) days, following its advice to the Port as set forth above, completion of the Contract in accordance with the Contract Documents and become entitled to payment of the balance of the Contract Sum, or
3. Pay the Port upon completion of the Contract, in cash, the cost of completion together with all other reasonable costs and expenses incurred by the Port as a result of the Contractor's default, including but not limited to, those reasonable costs and expenses incurred by the Port in its efforts to mitigate its losses, which may include but are not limited to, attorney's fees and efforts to complete the Work prior to the Surety exercising the options available to it as set forth herein.

D. If the Port shall commence suit and obtain judgment against the Surety for recovery hereunder, then the Surety, in addition to such judgment, shall pay all costs and attorney's fees incurred by the Port in enforcement of its rights hereunder. Venue for any action arising out of or in connection with this bond shall be in Pierce County, Washington.

E. No right or action shall accrue on this bond to or for the use of any person or corporation other than the Port of Tacoma.

Signed and Sealed the _____ day of _____, 20____.

IMPORTANT: Surety companies executing bonds must have an A.M. Best Rating of A- FSC of (6) or higher, have an underwriting limitation of not less than the Contract Sum, and be authorized to transact business in the State of Washington.

SURETY

Signature

Printed Name and Title

Power of Attorney attached.

CONTRACTOR

Signature

Printed Name and Title

END OF SECTION

LABOR AND MATERIAL PAYMENT BOND # _____

CONTRACTOR (NAME AND ADDRESS)

SURETY (NAME AND PRINCIPLE PLACE OF BUSINESS)

OWNER (NAME AND ADDRESS)

PORT OF TACOMA
P.O. BOX 1837
TACOMA, WA 98401-1837

AGENT OR BROKER (FOR INFORMATION ONLY)

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto the Port of Tacoma as Obligee, hereinafter called the Port, and all others entitled to recovery hereunder, in the amount of _____ Dollars (\$_____) for the payment whereof Contractor and Surety bind themselves, their executors, administrators, legal representatives, successors and assigns, jointly and severally firmly by these presents.

WHEREAS:

Contractor shall executed an agreement with the Port dated _____ for _____ a copy of which Contract is be reference made a part hereof (the term "Contract" as used herein to include the aforesaid agreement together with all the Contract Documents, addenda, modifications, alterations, additions thereto, deletions therefrom and any other documents or provisions incorporated into the Contract) and is hereinafter referred to as the Contract.

This bond is executed pursuant to the provisions of Chapter 39.08 Revised Code of Washington.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly make payment to all claimants, as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract and shall indemnify and save the Port harmless from all cost and damage by reason of Contractor's default, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject to the following conditions:

- A. The Surety hereby waives notice of any alterations, change orders, modifications or extensions of time made by the Port.
- B. Surety recognizes that the Contract includes provisions for additions, deletions and modifications to the Work or Contract Time and the amounts payable to the Contractor. Surety agrees that no such addition, deletion, or modification, or any combination thereof, shall avoid or impair Surety's obligation hereunder.

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 13.16 - PAYMENT BOND

- C. Surety hereby agrees that every person protected under the provisions of RCW 39.08.010 who has not been paid as provided under the Contract and pursuant to RCW 39.08.010, less any amounts withheld pursuant to statute, and less retainage withheld pursuant to RCW 60.28, after the expiration of a period of thirty (30) days after the date on which the completion of the Contract in accordance with RCW 39.08, may sue on this bond, prosecute the suit to final judgment as may be due claimant, and have execution thereon including recovery of reasonable costs and attorney's fees as provided by RCW 39.08. The Port shall not be liable for the payment of any costs or expenses of any such suit.
- D. No suit or action shall be commenced hereunder by any claimant unless claimant shall have given the written notices to the Port, and where required, the Contractor, in accordance with RCW 39.08.030.
- E. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of claims which may be properly filed in accordance with RCW 39.08 whether or not suit is commenced under and against this bond.
- F. If any Claimant shall commence suit and obtain judgment against the Surety for recovery hereunder, then the Surety, in addition to such judgment and attorney fees as provided by RCW 39.08.030, shall also pay such costs and attorney fees as may be incurred by the Port as a result of such suit. Venue for any action arising out of or in connection with this bond shall be in Pierce County, Washington.

Signed and Sealed this _____ day of _____, 20____.

IMPORTANT: Surety companies executing bonds must have an A.M. Best Rating of A- FSC of (6) or higher, have an underwriting limitation of not less than the Contract Sum, and be authorized to transact business in the State of Washington.

SURETY

Signature

Printed Name and Title

Power of Attorney attached.

CONTRACTOR

Signature

Printed Name and Title

END OF SECTION

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 23 - RETAINAGE BOND

Bond No. _____

Project Title: _____

Project No.: _____

Contract No. _____

KNOW ALL MEN BY THESE PRESENTS: That we _____, a corporation existing under and by virtue of the laws of the State of Washington and authorized to do business in the State of Washington, as Principal, and _____, a corporation organized and existing under the laws of the State of _____ and authorized to transact the business of surety in the State of Washington, as Surety, are jointly and severally held and bound unto the PORT OF TACOMA, hereinafter called Port, as Obligee, and are similarly held and bound unto the beneficiaries of the trust fund created by RCW 60.28 as their heirs, executors, administrators, successors and assigns in the penal sum of _____ (_____) plus 5% of any increases in the contract amount that have occurred or may occur, due to change orders, increases in the quantities or the addition of any new item of work.

WHEREAS, on the _____ day of _____, the said Principal herein executed Contract No. _____ with the Port for _____.

WHEREAS, said contract and RCW 60.28 require the Port to withhold from the Principal the sum of 5% from monies earned by the Principal on estimates during the progress of the work, hereinafter referred to as earned retained funds.

WHEREAS, the Principal has requested that the Port accept a bond in lieu of earned retained funds as allowed under Chapter 60.28 RCW.

NOW THEREFORE, this obligation is such that the Surety, its successors, and assigns are held and bound unto the Port and unto all beneficiaries of the trust fund created by RCW 60.28.011(1) in the aforesaid sum. This bond, including any proceeds therefrom, is subject to all claims and liens and in the same manner and priority as set forth for retained percentages in Chapter 60.28 RCW. The condition of this obligation is also that if the Principal shall satisfy all payment obligations to persons who may lawfully claim under the trust fund created pursuant to Chapter 60.28 RCW, to the Port, and indemnify and hold the Port harmless from any and all loss, costs, and damages that the Port may sustain by release of said retainage to Principal, then this obligation shall be null and void, provided the Surety is notified by the Port that the requirements of RCW 60.28.021 have been satisfied and the obligation is duly released by the Port.

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 23 - RETAINAGE BOND

IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable under this obligation as Principal. The Surety will not be discharged or released from liability for any act, omission or defenses of any kind or nature that would not also discharge the Principal.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of the Principal, the Surety, the Port, the beneficiaries of the trust fund created by Chapter 60.28 Revised Code of Washington (RCW) and their respective heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, said Principal and said Surety have caused these presents to be duly signed and sealed this _____ day of _____, 201__.

By: _____
Principal

Address: _____

City/ST/Zip: _____

Phone: _____

Surety Name _____

By: _____
Attorney-In-Fact

Address: _____

City/ST/Zip: _____

Phone: _____

IMPORTANT: Surety companies executing bonds must have an A.M. Best Rating of A- FSC of (6) or higher, and be authorized to transact business in the State of Washington.

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 23.13 - RETAINAGE ESCROW AGREEMENT

To:	Bank Name, Address, Phone	Escrow Account No:	
		Contract No:	Port fills in
		Project No:	Port fills in
Agency:	Port of Tacoma PO Box 1837 Tacoma, WA 98401-1837	Project Title:	Port fills in

The Undersigned _____, (Contractor Name and Address) hereinafter referred to as the Contractor, has directed the Port of Tacoma, hereinafter referred to as the Port, to deliver to _____ (Name of Bank), hereinafter referred to as "You", its checks for retainage under the Contract which shall be payable to You and the Contractor jointly, and which shall be held and disposed of by You in accordance with the following instructions and upon the terms and conditions hereinafter set forth.

ESCROW INSTRUCTIONS:

1. Checks made payable to You and the Contractor jointly upon delivery to You shall be endorsed by the Contractor and by You and then forwarded for collection by You. The moneys will then be used by You to purchase, as directed by the Contractor, bonds or other securities (hereinafter collectively referred to as "Securities") chosen by the Contractor and approved by the Port. Attached is a list of Securities approved by the Port. Other Securities, except stocks, may be selected by the Contractor, subject to express prior written approval of the Port, in its sole and absolute discretion. The purchase of Securities shall be in a form which shall allow You alone to reconvert such Securities into money if You are required to do so by the Port as provided in Paragraph 4 of this Escrow Agreement.
2. When and as interest on the Securities held by You pursuant to this Agreement accrues and is paid, You shall collect such interest and forward it to the Contractor at its address designated in the first paragraph unless otherwise directed by the Contractor.
3. You are not authorized to deliver to the Contractor all or any part of the checks or moneys received by You or the Securities held by You pursuant to this Agreement (or moneys derived from the sale of such Securities, or the negotiation of the Port's checks) except in accordance with written instructions from the Port's Sr. Contract Administrator. Compliance with such instructions shall relieve You of any further liability related thereto. The estimated final completion date on the Contract underlying this Agreement is _____.
4. In the event the Port orders You to do so in writing, You shall, within ten (10) days of receipt of such order, reconvert into money some or all of the Securities held by You pursuant to this Agreement, as required to satisfy the Port's order, and return such money, together with any other moneys held by You hereunder and required to satisfy the Port's order, to the Port. Consent of Contractor shall not be required for payment to the Port hereunder, and objection or other communication from Contractor shall not prevent, delay, or otherwise affect payment to the Port forthwith in accordance with the Port's order and this Agreement.
5. The Contractor agrees to pay You as compensation for Your services hereunder as follows: Payment of all fees shall be the sole responsibility of the Contractor and shall not be deducted from any checks, moneys, Securities, or other property placed with You or held by you pursuant to this Agreement until and unless the Port directs the release thereof to the Contractor, whereupon You shall be granted a first lien upon such property released and shall be entitled to reimburse Yourself from such property for the entire amount of Your fees as provided for hereinabove. In the event that You

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 61 23.13 - RETAINAGE ESCROW AGREEMENT

are made a party to any litigation with respect to the checks, moneys, Securities, or other property held by You hereunder, or in the event that the conditions of this escrow are not promptly fulfilled or that You are required to render any service not provided for in these instructions, or that there is any assignment of the interests of this escrow or any modification hereof, You shall be entitled to reasonable compensation for such extraordinary services from the Contractor and reimbursement from the Contractor for all costs and expenses, including reasonable attorney fees occasioned by such default, delay, controversy or litigation.

6. This Agreement shall not be binding until executed by Contractor and Port, and accepted by You.
7. This instrument contains the entire agreement between You, the Contractor, and the Port with respect to this escrow. There are no terms, obligations, covenants, or conditions regarding this escrow other than those contained herein, and You are not a party to nor bound by any instrument or agreement regarding this escrow other than this Agreement. You shall not be required to take notice of any default or any other matter under the Contract nor be bound by nor required to give notice or demand under the Contract, nor required to take any action whatsoever except as herein expressly provided. You shall not be liable for any loss or damage not caused by Your own negligence or wilful misconduct.
8. The foregoing provisions shall be binding upon the assigns, successors, personal representatives and heirs of the parties hereto.
9. The Contractor's Federal Income Tax Identification number is _____.

The undersigned have read and hereby approve the instructions as given above governing the administration of this escrow and do hereby execute this Agreement this _____ day of _____, 20____.

Contractor:

Signature

Name/Title

Date

Port of Tacoma

Signature

Name/ Port Treasurer or Deputy Treasurer

Date

The above escrow instructions received and accepted this _____ day of _____, 20____.

Bank: By _____ Name: _____
(Signature of Authorized Bank Officer) Title: _____

SECURITIES AUTHORIZED BY THE PORT:

1. FDIC insured time deposits and time deposits in commercial banks authorized by the Washington State Public Deposit Protection Commission.
2. Savings account deposits in commercial banks authorized by the Washington State Public Deposit Protection Commission.
3. Bills, certificates, notes or bonds of the United States;
4. Other obligations of the United States or its agencies; and
5. Obligation of any corporation wholly-owned by the government of the United States;

INSTRUCTIONS FOR RETAINAGE ESCROW AGREEMENTS:

Whenever possible, use the Port of Tacoma (Port) approved Escrow Agreement. The Port, at its discretion, may or may not accept an agreement form from another source.

Please return all three (3) originals of the Agreement, with completed contractor and bank information and signatures, and the escrow account number. The Port will review and sign the Agreement and distribute copies. One (1) original will go directly to the Bank, one (1) original will be returned to the Contractor.

Fill in the following on the Escrow Agreement:

- 1) Page 1 – Escrow Account Number
- 2) Page 1 – Name, address, and phone number of the Bank
- 3) Page 2 – Signature, typed/printed name, date, and the title of the Contractor Signatory.
- 4) Page 2 – Signature, typed/printed name, date, and the title of the Authorized Bank Officer signatory.

Do not fill in the date in the paragraph directly following paragraph 9. The Port will fill in this date once the document has been fully executed by the Port.

ARTICLE 1 - THE CONTRACT DOCUMENTS

1.01 GENERAL

- A. Contract Documents form the Contract. The Contract Documents are enumerated in the Agreement between the Port and Contractor ("Agreement"). Together, the Contract Documents form the Contract. The Contract represents the entire integrated agreement between the parties and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only in writing and only as set forth in the Contract Documents.
- B. Headings only for convenience. The titles or headings of the sections, divisions, parts, articles, paragraphs, and subparagraphs of the Contract Documents are intended only for convenience.

1.02 DEFINITIONS

- A. "Contractor" means the person or entity contracting to perform the Work under these Contract Documents. The term Contractor includes the Contractor's authorized representative for purposes of identifying obligations and responsibilities under the Contract Documents, including the ability to receive notice and direction from the Port.
- B. "Drawings" are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, including plans, elevations, sections, details, and diagrams.
- C. "Engineer" is the Port employee generally tasked with administering the Project on the Port's behalf and the person with overall responsibility for managing, for the Port, the Project scope, budget, and schedule. To the extent empowered, the Engineer may delegate to others at the Port (such as a Project Manager or Inspector) the responsibility for performing delegated responsibilities of the Engineer's under this Contract.
- D. "Port" means the Port of Tacoma. The Port will designate in writing a representative (usually the Engineer) who shall have the authority to act on the Port's behalf related to the Project. The "Port" does not include staff, maintenance or safety workers, or other Port employees or consultants that may contact the Contractor or be present at the Project site.
- E. "Project" is identified in the Agreement and is the total construction to be performed by or through the Port, of which the Work performed under the Contract Documents may be only a part.
- F. "Specifications" are those portions of the Contract Documents that specify the written requirements for materials, equipment, systems, standards and workmanship for the Work and for the performance of related services.
- G. "Subcontractor" means a person or entity that contracts directly with the Contractor to perform any Work under the Contract Documents. "Subcontractor of any tier" includes Subcontractors as well as any other person or entity, including suppliers, that contracts with a Subcontractor or a lower-tier Subcontractor (also referred to as "Sub-subcontractors") to perform any of the Work.
- H. "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, tools, equipment, materials, services and incidentals necessary to complete all obligations under the Contract Documents. The Work may constitute only a part of the Project, and may interface and need to be coordinated with the work of others.

1.03 INTENT OF THE CONTRACT DOCUMENTS

- A. Intent of Contract Documents. The intent of the Contract Documents is to describe the complete Work and to include all items necessary for the proper execution and completion of the Work by the Contractor.
- B. Contract Documents are complementary. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor is required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- C. No third party contract rights. The Contract Documents shall not create a contractual relationship of any kind (1) between the Port and a Subcontractor of any tier (although the Port does not waive any third-party beneficiary rights it may otherwise have as to Subcontractors of any tier), (2) between the Contractor and the Engineer or other Port employees or consultants, or (3) between any persons or entities other than the Port and Contractor.

1.04 CORRELATION OF THE CONTRACT DOCUMENTS

- A. Precedence. In the event of a conflict or discrepancy between or among the Contract Documents, the conflict or discrepancy will be resolved by the following order of precedence: with an addendum or Change Order having precedence over an earlier document, and computed dimensions having precedence over scaled dimensions and large scale drawings take precedence over small scale drawings:
 1. Order of Precedence:
 - a. Change Orders;
 - b. Agreement;
 - c. Amended Task Order(s);
 - d. Special or Supplementary Conditions;
 - e. General Terms and Conditions;
 - f. Task Order(s), includes Technical Specifications, Drawing Details and Drawings issued with Task Order(s);
 - g. Bid Form;
 - h. Technical Specifications, Divisions 1 through 49 included as part of the original solicitation;
 - i. Drawing Details;
 - j. Drawings;
 - k. Certificates/Bonds/Affidavits; and,
 - l. Invitation for Bid, including all sections in Division 0 not specifically referenced above.
 2. Inconsistency between or among Contract Documents. If there is any inconsistency between the Drawings, schedules, or Specifications, or any attachments, the Contractor will make an inquiry to the Engineer to determine how to proceed, and, unless otherwise directed, the Contractor will provide the better quality or greater quantity of any work or materials, as reasonably interpreted by the Port, at no change in the Contract Sum or Contract Time. Thus, if Work is shown on Drawings but not contained in Specifications or schedules, or contained in Specifications or schedules but not shown on the Drawings, the

Work as shown or contained will be provided at no change in the Contract Sum or Contract Time, according to Specifications or Drawings to be issued by the Port.

- B. Inconsistency with law. In the event of a conflict between the Contract Documents and applicable laws, codes, ordinances, regulations or orders of governmental authorities having jurisdiction over the Work, or in the event of any conflict between such laws, the most stringent requirements govern.
- C. Organization of Contract Documents. The organization of the Specifications and Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of the Work to be performed. The Port assumes no responsibility for the division and proper coordination of Work between particular Subcontractors.
- D. Bid quantities are estimates only. Any "bid quantities" set forth in the Contract Documents are estimates only. The Port does not warrant that the actual amount of Work will correspond to any estimates. The basis of payment will be the actual quantities performed in accordance with the Contract Documents.

1.05 OWNERSHIP OF THE CONTRACT DOCUMENTS

- A. Port owns all Contract Documents. All Drawings, Specifications, and other Contract Documents furnished to the Contractor are Port property, and the Port retains all intellectual property rights, including copyrights. The Contract Documents are to be used only with respect to the Project.

ARTICLE 2 - PORT OF TACOMA

2.01 AUTHORITY OF THE ENGINEER

- A. Engineer will be Port's representative. The Engineer or the Engineer's designee will be the Port's representative during the Project and will administer the Project on the Port's behalf.
- B. Engineer may enforce all obligations. The Engineer has the authority to enforce all requirements imposed on the Contractor by the Contract Documents.
- C. Only Engineer is agent of Port. Other than the Engineer, no other Port employee or consultant is an agent of the Port, and none are authorized to agree on behalf of the Port to changes in the Contract Sum or Contract Time, nor to waive provisions of the Contract Documents, nor to direct the Contractor to take actions that change the Contract Sum or Contract Time, nor to accept notice of protests or claims on behalf of the Port.

2.02 ADMINISTRATION OF THE CONTRACT

- A. Port will administer Contract. The Port will provide administration of the Contract through the Engineer or the Engineer's designee. All communications with the Port or its consultants related to the Contract will be through the designated representative.
- B. Port not responsible for means and methods. The Port is not responsible for, and will have no control or charge of, the means, methods, techniques, sequences, or procedures of construction, or for safety precautions or programs incidental thereto, because these are the sole responsibility of the Contractor. If the Port makes any suggestion of means, methods, techniques, sequences or procedures, the Contractor will exercise its independent judgment in deciding whether to adopt the suggestion, except as otherwise provided in the Contract Documents.
- C. Port not responsible for acts or omissions of Contractor or Subcontractors. The Port is not responsible for, and will have no control or charge of, the acts or omissions of the Contractor, Subcontractors of any tier, suppliers, or any of their agents or employees, or any other persons performing a portion of the Work.

- D. Port not responsible for the Work. The Port is not responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The presence of the Engineer or others at the Project site at any time does not relieve the Contractor from its responsibility for non-conforming Work.
- E. Port will have access to the Work. The Port and its representatives will at all times have access to the Work in progress, and the Contractor will provide proper facilities for such access and for inspection.

2.03 INFORMATION PROVIDED BY THE PORT

- A. Port to furnish information with reasonable promptness. The Port shall furnish information and services required of the Port by the Contract Documents with reasonable promptness.
- B. Subsurface investigation. The Port may have undertaken a limited investigation of the soil and other subsurface conditions at the Project site for design purposes only. The results of these investigations will be available for the convenience of the Contractor, but they are not Contract Documents. There is no warranty or guarantee, express or implied, that the conditions indicated are representative of those existing at the site or that unforeseen developments may not occur. The Contractor is solely responsible for interpreting the information.

2.04 CONTRACTOR REVIEW OF PROJECT INFORMATION

- A. Contractor to familiarize itself with site and conditions of Work. Prior to executing the Contract, the Contractor shall visit the site, become generally familiar with local conditions under which the Work is to be performed, and correlate personal observations with the requirements of the Contract Documents. By signing the Contract, the Contractor confirms that the Contract Sum is reasonable compensation for the Work; that the Contract Time is adequate; that it has carefully examined the Contract Documents and the Project site; and that it has satisfied itself as to the nature, location, and character of the Work, the labor, materials, equipment, and other items required and all other requirements of the Contract Documents. The Contractor's failure fully to acquaint itself with any such condition does not relieve the Contractor from the responsibility for performing the Work in accordance with the Contract Documents, within the Contract Time, and for the Contract Sum.
- B. Contractor to review Contract Documents. Because the Contract Documents are complementary, the Contractor will, before starting each portion of the Work, carefully study and compare the various Drawings, Specifications, and other Contract Documents, as well as all information furnished by the Port.
- C. Contractor to confirm field conditions. Before starting each portion of the Work the Contractor shall take field measurements of and verify any existing conditions, including all Work in place, and all general reference points; shall observe any conditions at the site affecting the Contractor; and shall carefully compare field measurements, conditions and other information known to the Contractor with the Contract Documents.

2.05 PORT'S RIGHT TO REJECT, STOP AND/OR CARRY-OUT THE WORK

- A. Port may reject Work. The Port has the authority but not the obligation to reject work, materials and equipment that is defective or that otherwise does not conform to the Contract Documents, and to decide questions concerning the Contract Documents. However, the failure to so reject or the presence of the Port at the site shall not be construed as assurance that the Work is acceptable or being completed in compliance with the Contract Documents.
- B. Port may stop Work. If the Contractor fails to correct Work that does not comply with the requirements of the Contract Documents, or repeatedly or materially fails to properly carry out the Work, the Port may issue an order to stop all or a portion of the Work until the cause for the

order has been eliminated. The Port's right to stop the Work shall not impose a duty on the Port to exercise this right for the benefit of the Contractor or any third party.

- C. Port may carry-out Work. If the Contractor fails to perform the Work properly, fails to perform any provision of this Contract, or fails to maintain the Progress Schedule, or if the Port reasonably concludes that the Work will not be completed in the specified manner or within the Contract Time, then the Port may, after three (3) days' written notice to the Contractor and without prejudice to any other remedy the Port may have, perform itself or have performed any or all of the Work and may deduct the cost thereof from any payment then or later due the Contractor.

2.06 SEPARATE CONTRACTORS

- A. Port may engage separate contractors or perform work with its own forces. The Port may contract with other contractors ("Separate Contractor") in connection with the Project or perform work with its own forces. The Contractor shall coordinate and cooperate with any Port forces or Separate Contractors, as applicable. The Contractor shall provide reasonable opportunity for the introduction and storage of materials and the execution of work by others.
- B. Contractor to inspect work of others. If any part of the Contractor's Work depends on the work of the Port or any Separate Contractor, the Contractor shall inspect and promptly report to the Port, in writing, any defects that impact the Contractor. Failure of the Contractor to so inspect and report defects in writing shall constitute an acceptance by Contractor of the work of the Port or Separate Contractor.
- C. Contractor to resolve claims of others. Should the Contractor or any of its Subcontractors of any tier cause damage of any kind, including but not limited to delay, to any Separate Contractor, the Contractor shall promptly and using its best efforts settle or otherwise resolve the dispute with the Separate Contractor. The Contractor shall also promptly remedy damage caused to completed or partially completed construction.

2.07 OFFICERS AND EMPLOYEES OF THE PORT

- A. No personal liability. Officers, employees, and representatives of the Port, including the Commissioners, acting within the scope of their employment, shall not be personally liable to Contractor for any acts or omissions arising out of the Project.

ARTICLE 3 - CONTRACTOR'S RESPONSIBILITIES

3.01 DUTY TO PERFORM THE ENTIRE WORK

- A. Contractor must perform entire Work in accordance with Contract Documents. The Contractor shall perform the entire Work required by the Contract in accordance with the Contract Documents. Unless otherwise specifically provided, the Contractor shall provide and pay for all labor, tools, equipment, materials, electricity, power, water, other utilities, transportation and other facilities necessary for the execution and completion of the Work.
- B. Contractor shall be independent contractor. The Contractor shall be and operate as an independent contractor in the performance of the Work. The Contractor is not authorized to enter into any agreements or undertakings for or on behalf of the Port and is not an agent or employee of the Port.

3.02 OBSERVED ERRORS, INCONSISTENCIES, OMISSIONS OR VARIANCES IN THE CONTRACT DOCUMENTS

- A. Contractor to notify Port of any discrepancy. The Contractor's obligations to review and carefully study the Contract Documents and field conditions are for the purpose of facilitating coordination and construction. If the Contractor at any time observes that the Contract

Documents, including Drawings and Specifications, vary from the conditions of the Project site, are in error, or omit any necessary detail, the Contractor shall promptly notify the Engineer in writing through a Request for Information. Any Work done after such observation, until authorized by the Engineer, shall be at Contractor's risk. The Contractor shall also promptly report to the Engineer any observed error, inconsistency, omission, or variance with applicable laws through a Request for Information. If the Contractor fails either to carefully study and compare the Contract Documents, or to promptly report any observed error, inconsistency, omission, or variance, the Contractor shall assume full responsibility and shall bear all costs, liabilities and damages attributable to the error, inconsistency, omission, or variance.

- B. Requests for Information. The Contractor shall submit Requests for Information concerning the Contract Documents by following the procedure and using such form as the Port may require. The Contractor shall minimize Requests for Information by thoroughly studying the Contract Documents and reviewing all Subcontractor requests. The Contractor shall allow adequate time in its planning and scheduling for a response from the Port to a Request for Information.
- C. Port may provide information to supplement Drawings and Specifications. Minor items of work or detail that are omitted from the Drawings and Specifications but inferable from the information presented and normally provided by accepted good practice shall be provided and/or performed by the Contractor as part of the Contract Sum and within the Contract Time. Similarly, the Engineer may furnish to the Contractor additional Drawings and clarifications, consistent with the Contract Documents, as necessary to detail and illustrate the Work. The Contractor shall conform its Work to such additional Drawings and clarifications at no increase in the Contract Sum or Contract Time.

3.03 SUPERVISION AND RESPONSIBILITY FOR SUBCONTRACTORS

- A. Contractor responsible for Work and workers. The Contractor shall have complete control of the means, methods, techniques, sequences or procedures related to the Work, and for all safety precautions or programs. The Contractor shall have complete control over and responsibility for all personnel performing the Work. The Contractor is also responsible for the acts and omissions of the Contractor's principals, employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors of any tier.
- B. Contractor to supervise the Work. The Contractor shall continuously supervise and direct the Work using competent and skilled personnel and the Contractor's best skill and attention.
- C. Contractor to enforce discipline and good order. The Contractor shall enforce strict discipline and good order among all workers on the Project, and shall not employ any unfit person or anyone not skilled in the work to which they are assigned. Incompetent, careless, or negligent workers shall immediately be removed from the Work. The Port may, but is not obligated to, require the Contractor to remove from the Work, at no change in the Contract Sum or Contract Time, anyone whom the Port considers objectionable.

3.04 MATERIALS AND EQUIPMENT

- A. Material and equipment to be new. All materials and equipment to be incorporated into the Work shall be new unless specifically provided otherwise in the Contract Documents. The Contractor shall, if required in writing by the Port, furnish satisfactory evidence regarding the kind and quality of any materials, identify the source, and warrant compliance with the Contract Documents. The Contractor shall ensure that all materials and equipment are protected, kept dry and stored under cover in a manner to protect such materials and equipment.
- B. Material and equipment shall conform to manufacturer instructions. All materials and equipment shall conform, and shall be applied, installed, used, maintained and conditioned in

accordance with, the instructions of the applicable manufacturer, fabricator or processor, unless otherwise specifically provided by the Engineer.

3.05 CONTRACTOR WARRANTIES

- A. Work will be of good quality and performed in workmanlike manner. In addition to any specific warranties set forth in the Contract Documents, the Contractor warrants that the Work, including all materials and equipment furnished under the Contract, will be of good quality and new, will be performed in a skillful and workmanlike manner and will conform to the requirements of the Contract Documents. Any Work not conforming to this warranty, including unapproved or unauthorized substitutions, shall be considered defective.
- B. Work will be free from defects. The Contractor warrants that the Work will be free from defects for a period of one (1) year from the date of Substantial Completion of the Project.
- C. Contractor to collect and deliver warranties to Port. The Contractor shall collect and deliver to the Port any written warranties required by the Contract Documents. These warranties shall be obtained and enforced by the Contractor for the benefit of the Port without the necessity of separate assignment. These warranties shall extend to the Port all rights, claims, benefits and interests that the Contractor may have under express or implied warranties or guarantees against a Subcontractor of any tier, supplier or manufacturer for defective or non-conforming Work. Warranty provisions that purport to limit or alter the Port's rights under the Contract Documents or the laws of the State of Washington are null and void.
- D. General requirements. The Contractor is not relieved of its general warranty obligations by the specification of a particular product or procedure in the Contract Documents. Warranties in the Contract Documents shall survive completion, acceptance and final payment.

3.06 REQUIRED WAGES

- A. Contractor will pay required wages. The Contractor shall pay (and shall ensure that all Subcontractors of any tier pay) all prevailing wages and other wages (such as Davis-Bacon Act wages) applicable to the Project. See Specification Section 00 73 46.
- B. The Contractor shall defend (at Contractor's sole cost, with legal counsel approved by Port), indemnify and hold the Port harmless from all liabilities, obligations, claims, demands, damages, disbursements, lawsuits, losses, fines, penalties, costs and expenses, whether direct or indirect, and including but not limited to attorneys' fees and consultants' fees and other costs and expenses of litigation, from any violation or alleged violation by the Contractor or any Subcontractor of any tier of RCW 39.12 ("Prevailing Wages on Public Works") or Chapter 51 RCW ("Industrial Insurance").

3.07 STATE AND LOCAL TAXES

- A. Contractor will pay taxes on consumables. The Contractor will pay the retail sales tax on all consumables used during performance of the Work and on all items that are not incorporated into the final Work; this tax shall be included in the Contract Sum.
- B. Port will pay taxes on the Contract Sum. The Port will pay state and local retail sales tax on the Contract Sum with each progress payment and on final payment for transmittal by the Contractor to the Washington State Department of Revenue or to the applicable local taxing authority. Rule 170: WAC 458-20-170.
- C. Direct all tax questions to the Department of Revenue. The Contractor should direct all questions concerning taxes on any portion of the Work to the State of Washington Department of Revenue or to the local taxing authority.

D. State Sales Tax - Rule 171: WAC 458-20-171. For work performed related to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used, primarily, for foot or vehicular traffic, the Contractor shall include Washington State Retail Sales Taxes in the various schedule prices, or other contract amounts, including those that the Contractor pays on the purchase of materials, equipment, or supplies used or consumed in doing the Work.

1. The bid form will indicate which bid items are subject to Rule 171. Any such identification by the Port is not binding upon the Department of Revenue.

3.08 PERMITS, LICENSES, FEES, AND ROYALTIES

- A. Contractor to provide and pay for permits unless otherwise specified. Unless otherwise specified, the Contractor shall procure and pay for all permits, licenses, and governmental inspection fees necessary or incidental to the performance of the Work. All costs related to these permits, licenses, and inspections shall be included in the Contract Sum. Any action taken by the Port to assist the Contractor in obtaining permits or licenses shall not relieve the Contractor of its sole responsibility to obtain and pay for permits, licenses, and inspections as part of the Contract Sum.
- B. Contractor's obligations when permit must be in Port's name. When applicable law or agency requires a permit to be issued to a public agency, the Port will support the Contractor's request for the permit and accept the permit in the Port's name, if:
 1. The Contractor takes all necessary steps required for the permit to be issued;
 2. The permit applies to Work performed in connection with the Project; and
 3. The Contractor agrees in writing to abide by all requirements of the permit and to defend and hold harmless the Port from any liability in connection with the permit.
- C. Contractor to pay royalties. The Contractor shall pay all royalties and license fees required for the Work unless otherwise specified in the Contract Documents.

3.09 SAFETY

- A. Contractor solely responsible for safety. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work and the performance of the Contract.
- B. Port not responsible for safety. The Port may identify safety concerns to the Contractor. However, no action or inaction of the Port or any third party relating to safety will: (1) relieve the Contractor of its sole and complete responsibility for safety and sole liability for any consequences; (2) impose any obligation on the Port or a third party to inspect or review the Contractor's safety program or precautions; (3) impose any continuing obligation on the Port or a third party to ensure the Contractor performs the Work safely; or (4) affect the Contractor's responsibility for the protection of property, workers, and the general public.
- C. Contractor to maintain a safe Work site. The Project site may be occupied during performance of the Work. The safety of these site occupants is of paramount importance to the Port. The Contractor shall maintain the Work site and perform the Work in a safe manner and in accordance with the Washington Industrial Safety and Health Act (WISHA) and all other applicable safety laws, rules, and regulations. This requirement shall apply continuously and not be limited to working hours.
- D. Contractor to protect Work site and adjacent property until Final Completion. The Contractor shall continuously protect the Work and adjacent property from damage. At all times until Final Completion, the Contractor shall be responsible for and protect from damage, weather,

deterioration, theft, and vandalism the Work and all materials, equipment, tools, and other items incorporated or to be incorporated in the Work, and shall repair any damage, injury or loss.

3.10 CORRECTION OF WORK

- A. Contractor to correct defective Work. The Contractor shall, at no cost to the Port, promptly correct Work that is defective or that otherwise fails to conform to the requirements of the Contract Documents. Such Work shall be corrected, whether before or after Substantial Completion, and even if it was previously inspected or observed by the Port.
- B. One-year correction period. The Contractor shall correct all defects in the Work appearing within one (1) year of Substantial Completion or within any longer period prescribed by law or by the Contract Documents. The Contractor shall initiate remedial action within fourteen (14) days of receipt of notice from the Port and shall complete remedial work within a reasonable time. Work corrected by the Contractor shall be subject to the provisions of this Section 3.10 for an additional one-year period following the Port's acceptance of the corrected Work.
- C. Contractor responsible for defects and failures to correct. The Contractor shall be responsible for any expenses incurred by the Port resulting from defects in the Work. If the Contractor refuses or neglects to correct the defects or does not timely accomplish corrections, the Port may correct the Work and charge the Contractor the cost of the corrections. If damage or loss of service may result from a delay in correction, the corrections may be made by the Port and reimbursed by the Contractor.
- D. Port may accept defective work. The Port may, at its sole option, elect to retain defective or nonconforming Work. In such a case, the Port shall reduce the Contract Sum by a reasonable amount to account for the defect or non-conformance.
- E. No period of limitation established. Nothing contained in this Section 3.10 establishes a period of limitation with respect to any obligations under the Contract Documents or law. The establishment of the one (1) year correction period relates only to the specific obligation of the Contractor to correct defective or non-conforming Work.

3.11 UNCOVERING OF WORK

- A. Contractor to uncover work covered prior to inspection. If any portion of the Work is covered prior to inspection and approval, the Contractor shall, at its expense, uncover or remove the Work for inspection by the Port or others, and replace the Work to the standard required by the Contract Documents.
- B. Contractor to uncover work at Port's request. After initial inspection and observation, the Port may order a reexamination of Work, and the Work must be uncovered by the Contractor. If the uncovered Work complies with the Contract Documents, the Port shall pay the cost of reexamination and replacement. If the Work is found not to comply with the Contract Documents, the Contractor shall pay the cost of replacement unless the Contractor demonstrates that it did not cause the defect in the Work.

3.12 RELOCATION OF UTILITIES

- A. Contractor should assume underground utilities are in approximate locations. The Contractor should assume that the locations of any underground or hidden utilities, underground tanks, and plumbing or electrical runs indicated in surveys or the Contract Documents are shown in approximate locations. The accuracy of this information is not guaranteed by the Port and shall be verified by the Contractor. The Contractor shall comply with RCW 19.122.030 and utilize a utility locator service to locate utilities on Port property. The Contractor shall bear the risk of loss if any of its Work directly or indirectly damages or interrupts any utility service or causes or contributes to damages of any nature.

- B. Utility relocation or removal. Where relocation or removal of utilities is necessary or required, it shall be performed at the Contractor's sole expense, unless the Contract Documents specify otherwise. If a utility owner is identified as being responsible for relocating or removing utilities, the work will be accomplished at the utility owner's convenience, either during or in advance of construction. Unless otherwise specified, it shall be the Contractor's sole responsibility to coordinate, schedule, and pay for work performed by a utility owner.
- C. Contractor to notify Port of unknown utilities. If the Contractor discovers the presence of any unknown utilities, it shall immediately notify the Engineer in writing.

3.13 LABOR

- A. Contractor responsible for labor peace. The Contractor is responsible for labor peace relating to the Work and shall cooperate in maintaining Project-wide labor harmony. The Contractor shall use its best efforts as an experienced contractor to adopt and implement policies and practices designed to avoid work stoppages, slowdowns, disputes or strikes.
- B. Contractor to minimize impact of labor disputes. The Contractor will take all necessary steps to prevent labor disputes from disrupting or otherwise interfering with access to Port property. If a labor dispute disrupts the progress of the Work or interferes with access, the Contractor shall promptly and expeditiously take all necessary action to eliminate or minimize the disruption or interference.

3.14 INDEMNIFICATION

- A. Duty to defend, indemnify, and hold harmless. To the fullest extent permitted by law and subject to this Section 3.14, the Contractor shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify and hold harmless the Port, including its Commission, officers, managers, employees (including the Engineer), any consultants, and the agents and employees, successors and assigns of any of them (the "Indemnified Parties") from and against claims, damages, lawsuits, losses (including loss of use), disbursements, liabilities, obligations, fines, penalties, costs and expenses, whether direct and indirect or consequential, including but not limited to consultants' fees, and attorneys' fees incurred on such claims and in proving the right to indemnification ("Claims"), arising out of or resulting from the acts or omissions of the Contractor, a Subcontractor of any tier, their agents and anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable (individually and collectively, the "Indemnitor").
- B. Duty to defend, indemnify, and hold harmless for sole negligence. The Contractor will fully defend, indemnify, and hold harmless the Indemnified Parties for the sole negligence or willful misconduct of the Indemnitor.
- C. Duty to defend, indemnify, and hold harmless for concurrent negligence. Where Claims arise from the concurrent negligence of (1) the Port and (2) the Indemnitor, the Contractor's obligations to indemnify and defend the Indemnified Parties under this Section 3.14 shall be effective only to the extent of the Indemnitor's negligence.
- D. Duty to indemnify not limited by workers' compensation or similar employee benefit acts. In claims against any of the Indemnified Parties by an employee of the Contractor, a Subcontractor of any tier, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section 3.14 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable under workers' compensation acts, disability benefit acts or other employee benefit acts. After mutual negotiation of the parties, the Contractor waives immunity as to the Indemnified Parties under Title 51 RCW, "Industrial Insurance."

- E. Intellectual property indemnification. The Contractor will be liable for and shall defend (at the Contractor's sole cost, with legal counsel approved by Port) indemnify and hold the Indemnified Parties harmless for Claims for infringement by the Contractor of copyrights or patent rights arising out of or relating to the Project.
- F. Labor peace indemnification. If the Contractor fails to satisfy its labor peace obligations under the Contract, the Contractor will be liable for and shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify and hold harmless the Indemnified Parties for Claims brought against the Port by third parties (including but not limited to lessees, tenants, contractors, customers, licensees and invitees of the Port) for injunctive relief or monetary loss.
- G. Joinder. The Contractor agrees to being added by the Port as a party to any arbitration or litigation with third parties in which the Port alleges indemnification or seeks contribution from the Indemnitor. The Contractor shall cause each of its Subcontractors of any tier to similarly stipulate in their subcontracts; in the event any does not, the Contractor shall be liable in place of such Subcontractor(s) of any tier.
- H. Other. To the extent that any portion of this Section 3.14 is stricken by a court or arbitrator for any reason, all remaining provisions shall retain their vitality and effect. The obligations of the Contractor under this Section 3.14 shall not be construed to negate, abridge, or otherwise reduce any other right or obligations of indemnity which would otherwise exist. To the extent the wording of this Section 3.14 would reduce or eliminate an available insurance coverage, it shall be considered modified to the extent necessary so that the insurance coverage is not affected. This Section 3.14 shall survive completion, acceptance, final payment and termination of the Contract.

3.15 WAIVER OF CONSEQUENTIAL DAMAGES

- A. Mutual waiver of consequential damages. The Contractor and Port waive claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes but is not limited to: (1) damages incurred by the Port for rental expenses, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and (2) damages incurred by the Contractor for principal and home office overhead and expenses including but not limited to the compensation of personnel stationed there, for losses of financing, business and reputation, for losses on other projects, for loss of profit, and for interest or financing costs. This mutual waiver includes but is not limited to all consequential damages due to either party's termination.
- B. Limitation. Nothing contained in this Section 3.15, however, shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents, to preclude damages specified in the Agreement or to affect the Contractor's obligation to indemnify the Port for direct, indirect or consequential damages alleged by a third party.

ARTICLE 4 - SUBCONTRACTORS AND SUPPLIERS

4.01 RESPONSIBILITY FOR ACTIONS OF SUBCONTRACTORS AND SUPPLIERS.

- A. Contractor responsible for Subcontractors. The Contractor is fully responsible to the Port for the acts and omissions of its Subcontractors of any tier and all persons either directly or indirectly employed by the Contractor or its Subcontractors.

4.02 AWARD OF CONTRACTS TO SUBCONTRACTORS AND SUPPLIERS

- A. Contractor to provide proposed Subcontractor information. The Contractor, within ten (10) days after the Port's notice of award of the Contract, shall provide to the Engineer with the names of the persons or entities proposed to perform each of the principal portions of the Work (i.e.,

either a Subcontractor listed in a bid or proposal or a Subcontractor performing Work valued at least ten percent (10%) of the Contract Sum) and the proprietary names and the suppliers of the principal items or systems of materials and equipment proposed for the Work. No progress payment will become due until after this information has been furnished.

- B. Port to respond promptly with objections. The Port may respond promptly to the Contractor in writing stating (1) whether the Port has reasonable objection to any proposed person or entity or (2) whether the Port requires additional time for review. If the Port makes a reasonable objection, the Contractor shall replace the Subcontractor with no increase to the Contract Sum or Contract Time. Such a replacement shall not relieve the Contractor of its responsibility for the performance of the Work and compliance with all of the requirements of the Contract within the Contract Sum and Contract Time.
- C. Reasonable objection defined. "Reasonable objection" as used in this Section 4.02 includes but is not limited to: (1) a proposed Subcontractor of any tier different from the entity listed with the bid, (2) lack of "responsibility" of the proposed Subcontractor, as defined by Washington law and the Bidding Documents, or lack of qualification or responsibility of the proposed Subcontractor based on the Contract or Bidding Documents, or (3) failure of the Subcontractor to perform satisfactorily in the Port's opinion (such as causing a material delay or submitting a claim that the Port considers inappropriate) on one or more projects for the Port within five (5) years of the bid date.
- D. No substitution allowed without permission. The Contractor shall not substitute a Subcontractor, person, or organization without the Engineer's written consent.

4.03 SUBCONTRACTOR AND SUPPLIER RELATIONS

- A. Contractor to schedule, supervise, and coordinate Subcontractors. The Contractor shall schedule, supervise and coordinate the operations of all Subcontractors of any tier, including suppliers. The Contractor shall ensure that appropriate Subcontractors coordinate the Work of lower-tier Subcontractors.
- B. Subcontractors to be bound to Contract Documents. By appropriate agreement, the Contractor shall require each Subcontractor and supplier to be bound to the terms of the Contract Documents and to assume toward the Contractor, to the extent of their Work, all of the obligations that the Contractor assumes toward the Port under the Contract Documents. Each subcontract shall preserve and protect the rights of the Port and shall allow to the Subcontractor, unless specifically provided in the subcontract, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Port. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with lower-tier Subcontractors.
- C. Contractor to correct deficiencies in Subcontractor performance. When a portion of the Work subcontracted by the Contractor is not being prosecuted in accordance with the Contract Documents, or if such subcontracted Work is otherwise being performed in an unsatisfactory manner in the Port's opinion, the Contractor shall, on its own initiative or upon the written request of the Port, take immediate steps to correct the deficiency or remove the non-performing party from the Project. The Contractor shall replace inadequately performing Subcontractors upon request of the Port at no change in the Contract Sum or Contract Time.
- D. Contractor to provide subcontracts. Upon request, the Contractor will provide the Port copies of written agreements between the Contractor and any Subcontractor.

ARTICLE 5 - WORKFORCE AND NON-DISCRIMINATION REQUIREMENTS

5.01 COMPLIANCE WITH NON-DISCRIMINATION LAWS

- A. Contractor to comply with non-discrimination laws. The Contractor shall fully comply with all applicable laws, regulations, and ordinances pertaining to non-discrimination.

5.02 SMALL BUSINESS ENTERPRISE PARTICIPATION.

- A. Small business participation encouraged. The Port's policy is to encourage the Contractor to solicit and document participation, and to provide and promote the maximum lawful, practicable opportunity for increased participation, by small business enterprises.

ARTICLE 6 - CONTRACT TIME AND COMPLETION

6.01 CONTRACT TIME

- A. Contract Time is measured from Contract execution. Unless otherwise provided in the Agreement, the Contract Time is the period of time, including authorized adjustments, specified in the Contract Documents from the date the Contract is executed to the date Substantial Completion of the Work is achieved.
- B. Commencement of the Work. The Contractor shall begin Work in accordance with the notice of award and the notice to proceed and shall complete all Work within the Contract Time. When the Contractor's signed Agreement, required insurance certificate with endorsements, bonds and other submittals required by the notice of award have been accepted by the Port, the Port will execute the Contract and, following receipt of other required pre-work submittals, will issue a notice to proceed to allow the Contractor to mobilize and commence physical Work at the Project site, as further described in these contract documents. No Work at the Project site may commence until the Port issues a notice to proceed.
- C. Contractor shall achieve specified completion dates. The Contractor shall achieve Substantial Completion within the Contract Time and shall achieve Final Completion within the time period thereafter stated in the Contract Documents.
- D. Time is of the essence. Time limits stated in the Contract Documents, including any interim milestones, are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

6.02 PROGRESS AND COMPLETION

- A. Contractor to maintain schedule. The Contractor's sequence and method of operations, application of effort, and work force shall at all times be created and implemented to ensure the orderly, expeditious, and timely completion of the Work and performance of the Contract. The Contractor shall furnish sufficient forces and shall work such hours, including extra shifts, overtime operations and weekend and holiday work as may be necessary to ensure completion of the Work within the Contract Time and the approved Progress Schedule.
- B. Contractor to take necessary steps to meet schedule. If the Contractor fails substantially to perform in a timely manner in accordance with the Contract Documents and, through the fault of the Contractor or Subcontractor(s) of any tier, fails to meet the Progress Schedule, the Contractor shall take such steps as may be necessary to immediately improve its progress by increasing the number of workers, shifts, overtime operations or days of work, or by other means and methods, all without additional cost to the Port. If the Contractor believes that any action or inaction of the Port constitutes acceleration, the Contractor shall immediately notify the Port in writing and shall not accelerate the Work until the Port either directs the acceleration in writing or denies the constructive acceleration.

C. Liquidated damages not exclusive. Any provisions in the Contract Documents for liquidated damages shall not preclude other damages due to breaches of Contract of the Contractor.

6.03 SUBSTANTIAL COMPLETION

A. Substantial Completion defined. Substantial Completion is the stage in the progress of the Work, or portion or phase thereof, when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Port can fully occupy or utilize the Work, or the designated portion thereof, for its intended use, all requirements in the Contract Documents for Substantial Completion have been achieved, and all required documentation has been properly submitted to the Port in accordance with the Contract Documents. All Work other than incidental corrective or punch list Work and final cleaning must be completed. The fact that the Port may occupy the Work or a designated portion thereof does not indicate that Substantial Completion has occurred or that the Work is acceptable in whole or in part.

B. Work not Substantially Complete unless Final Completion attainable. The Work is not Substantially Complete unless the Port reasonably judges that the Work can achieve Final Completion within the period of time specified in the Contract Documents.

C. Notice of Substantial Completion. When the Work or designated portion has achieved Substantial Completion, the Port will provide a notice to establish the date of Substantial Completion. The notice shall establish responsibilities of the Port and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all remaining Work. If the notice of Substantial Completion does not so state, all responsibility for the foregoing items shall remain with the Contractor until Final Completion.

6.04 COMPLETION OF PUNCH LIST

A. Contractor shall complete punch list items prior to Final Completion. The Contractor shall cause punch list items to be completed prior to Final Completion. If, after Substantial Completion, the Contractor does not expeditiously proceed to correct punch list items or if the Port considers that the punch list items are unlikely to be completed prior to the date established for Final Completion (or such other period of time as is specified in the Contract Documents), the Port may, upon seven (7) days' written notice to the Contractor, take over and perform some or all of the punch list items. The Port may also take over and complete any portion of the Work at any time following Substantial Completion and deduct the actual cost of performing the Work (including direct and indirect costs) from the Contract Sum. The Port's rights under this Section 6.04 are not obligations and shall not relieve the Contractor of its responsibilities under any other provisions of the Contract Documents.

6.05 FINAL COMPLETION

A. Final Completion. Upon receipt of written notice from the Contractor that all punch list items and other Contract requirements are completed, the Contractor will notify the Port, and the Port will perform a final inspection. If the Port determines that some or all of the punch list items have not been addressed, the Contractor shall be responsible to the Port for all costs, including re-inspection fees, for any subsequent reviews to determine completion of the punch list. When the Port determines that all punch list items have been satisfactorily addressed, that the Work is acceptable under the Contract Documents and that the Work has fully been performed, the Port will promptly notify the Contractor of Final Completion.

B. Contractor responsible for costs if Final Completion is not timely achieved. In addition to any liquidated damages, the Contractor is liable for, and the Port may deduct from any amounts due the Contractor, all costs incurred by the Port for services performed after the contractual date of

Final Completion, whether or not those services would have been performed prior to that date had Final Completion been timely achieved.

- C. Final Completion submittals. The Port is not obligated to accept the Project as complete until the Contractor has submitted all required submittals to the Port.
- D. Contractor responsible for the Work until Final Completion. The Contractor shall assume the sole risk of loss and responsibility for all Work under the Contract, and all materials to be incorporated in the Work, whether in storage or at the Project site, until Final Completion. Damage from any cause to either permanent or temporary Work, utilities, materials, equipment, existing structures, the site, or other property owned by the Port or others, shall be repaired by the Contractor to the reasonable satisfaction of the Port at no change in the Contract Sum.

6.06 FINAL ACCEPTANCE

- A. Final Acceptance. Final Acceptance is the formal action of the Port accepting the Project as complete. Public notification of Final Acceptance will be posted on the Port's external website (<<http://www.portoftacoma.com/final-acceptance>>).
- B. Final Acceptance not an acceptance of defective Work. Final Acceptance shall not constitute acceptance by the Port of unauthorized or defective Work, and the Port shall not be prevented from requiring the Contractor to remove, replace, repair, or dispose of unauthorized or defective Work or recovering damages due to the same.
- C. Completion of Work under RCW 60.28. Pursuant to RCW 60.28, "Lien for Labor, Materials, Taxes on Public Works," completion of the Contract Work shall occur upon Final Acceptance.

6.07 PORT'S RIGHT TO USE THE PREMISES

- A. Port has right to use and occupy Work. The Port reserves the right to occupy or use any part of the Work before or after Substantial Completion of some or all of the Work without relieving the Contractor of any of its obligations under the Contract. Such occupancy or use shall not constitute acceptance by the Port of any of the Work, and shall not cause any insurance to be canceled or lapse.
- B. No compensation due if Port elects to use and occupy Work. No additional compensation shall be due to the Contractor as a result of the Port's use or occupancy of the Work or a designated portion.

ARTICLE 7 - PAYMENT

7.01 ALL PAYMENTS SUBJECT TO APPLICABLE LAWS AND SCHEDULE OF VALUES

- A. Payment of the Contract Sum. The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Port to the Contractor for performance of the Work under the Contract Documents. Payments made to the Contractor are subject to all laws applicable to the Port and the Contractor. Payment of the Contract Sum constitutes full compensation to the Contractor for performance of the Work, including all risk, loss, damages, or expense of whatever character arising out of the nature or prosecution of the Work. The Port is not obligated to pay for extra work or materials furnished without prior written approval of the Port.
- B. Schedule of Values. All payments will be based upon an approved Schedule of Values. Prior to submitting its first Application for Payment, the Contractor shall submit a Schedule of Values to the Port allocating the entire Contract Sum to the various portions of the Work. The Schedule of Values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Port may require. This schedule, unless objected to by the Port, shall be used as a basis for reviewing the Contractor's applications for payment.

7.02 APPLICATIONS FOR PAYMENT

- A. Applications for Payment. Progress payments will be made monthly for Work duly certified, approved by the Engineer, and performed (based on the Schedule of Values and actual quantities of Work performed) during the calendar month preceding the Application for Payment. These amounts are paid in trust to the Contractor for distribution to Subcontractors to the extent and in accordance with the approved Application for Payment.

7.03 PROGRESS PAYMENTS

- A. Progress payments. Following receipt of a complete Application for Payment, the Engineer will either authorize payment or indicate in writing to the Contractor the specific reasons why the payment request is being denied, in whole or in part, and the remedial action the Contractor must take to receive the withheld amount. After a complete Application for Payment has been received and approved by the Port, payment will be made within thirty (30) days. Any payments made by, or through, or following receipt of payment from third parties will be made in accordance with the third party's policies and procedures.
- B. Port may withhold payment. The Port may withhold payment in whole or in part as provided in the Contract Documents or to the extent reasonably necessary to protect the Port from loss or potential loss for which the Contractor is responsible, including loss resulting from the Contractor's acts and omissions.

7.04 PAYMENT BY CONTRACTOR TO SUBCONTRACTORS

- A. Payment to Subcontractors. With each Application for Payment, the Contractor shall provide a list of Subcontractors to be paid by the Contractor. No payment request shall include amounts the Contractor does not intend to pay to a Subcontractor because of a dispute or other reason. If, however, after submitting an Application for Payment but before paying a Subcontractor, the Contractor discovers that part or all of a payment otherwise due to the Subcontractor is subject to withholding from the Subcontractor under the subcontract (such as for unsatisfactory performance or non-payment of lower-tier Subcontractors), the Contractor may withhold the amount as allowed under the subcontract, but it shall give the Subcontractor and the Port written notice of the remedial actions that must be taken and pay the Subcontractor within eight (8) working days after the Subcontractor satisfactorily completes the remedial action identified in the notice.
- B. Payment certification to be provided upon request. The Contractor shall provide with each Application for Payment a certification signed by Contractor attesting that all payments by the Contractor to Subcontractors from the last Application for Payment were made within ten (10) days of the Contractor's receipt of payment. The certification will also attest that the Contractor will make payment to Subcontractors for the current Application for Payment within ten (10) days of receipt of payment from the Port.

7.05 FINAL PAYMENT

- A. Final payment. Final applications for payment are due within seven (7) days following Final Completion. Final payment of the unpaid balance of the Contract Sum, except retainage, will be made following Final Completion and within thirty (30) days of the Contractor's submission of an approved final Application for Payment.
- B. Releases required for final payment. The final payment shall not become due until the Contractor delivers to the Port a complete release of all liens arising out of the Contract, as well as an affidavit stating that, to the best of Contractor's knowledge, its release includes all labor and materials for which a lien could be filed. If a Subcontractor of any tier refuses to furnish a release or waiver required by the Port, the Port may (a) retain in the fund, account, or escrow

funds in such amount as to defray the cost of foreclosing the liens of such claims and to pay attorneys' fees, the total of which shall be no less than 150% of the claimed amount, or (b) accept a bond from the Contractor, satisfactory to the Port, to indemnify the Port against the lien. If any such lien remains unsatisfied after all payments from the retainage are made, the Contractor shall refund to the Port all moneys that the Port may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

C. Contractor to hold Port harmless from liens. The Contractor shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify, and hold harmless the Port from any liens, claims, demands, lawsuits, losses, damages, disbursements, liabilities, obligations, fines, penalties, costs and expenses, whether direct, indirect, including but not limited to attorneys' fees and consultants' fees and other costs and expenses, except to the extent a lien has been filed because of the failure of the Port to make a contractually required payment.

7.06 RETAINAGE

A. Retainage to be withheld. In accordance with RCW 60.28, a sum equal to five percent (5%) of each approved Application for Payment shall be retained. Prior to submitting its first Application for Payment, the Contractor shall exercise one of the options listed below:

1. Retained percentages will be retained by the Port in a fund; or
2. Deposited by the Port in an interest-bearing account in a bank, mutual savings bank or savings and loan association; or
3. Placed in escrow with a bank or trust company; or
4. If the Contractor provides a bond in place of retainage, it shall be in an amount equal to 5% of the Contract Sum plus Change Orders. The retainage bond shall be based on the form furnished in Section 00 61 23 or otherwise acceptable to the Port and duly completed and signed by a licensed surety or sureties registered with the Washington State Insurance Commissioner and on the currently authorized insurance list published by the Washington State Insurance Commissioner. The surety or sureties must be rated at least A minus, FSC(6), or higher by A.M. Best Rating Guide and be authorized by the Federal Department of the Treasury. Attorneys-in-fact who sign the retainage bond must file with each bond a certified and effective Power of Attorney statement.

B. Contractor may withhold retainage from Subcontractors. The Contractor or a Subcontractor may withhold not more than five percent (5%) retainage from the monies earned by any Subcontractor or lower-tier Subcontractor, provided that the Contractor pays interest to the Subcontractor at the same interest rate it receives from its reserved funds. If requested by the Port, the Contractor shall specify the amount of retainage and interest due a Subcontractor.

C. Release of retainage. Retainage will be withheld and applied by the Port in a manner required by RCW 60.28 and released in accordance with the Contract Documents and statutory requirements. Release of the retainage will be processed in the ordinary course of business within sixty (60) days following Final Acceptance of the Work by the Port provided that no notice of lien has been given as provided in RCW 60.28, that no claims have been brought to the attention of the Port, that the Port has no claims under this Contract, and that release of retention has been duly authorized by the State. The following items must also be obtained prior to release of retainage: pursuant to RCW 60.28, a certificate from the Department of Revenue; pursuant to RCW 50.24, a certificate from the Department of Employment Security; and appropriate information from the Department of Labor and Industries including approved affidavits of wages paid for the Contractor and each subcontractor.

7.07 DISPUTED AMOUNTS

- A. Disputed amounts. If the Contractor believes it is entitled to payment for Work performed during the prior calendar month in addition to the agreed-upon amount, the Contractor may submit to the Port along with the approved Application for Payment, a separate written payment request specifying the exact additional amount claimed to be due, the category in the Schedule of Values to which the payment would apply, the specific Work for which additional payment is sought, and an explanation of why the Contractor believes additional payment is due.

7.08 EFFECT OF PAYMENT

- A. Payment does not relieve Contractor of obligations. Payment to the Contractor of progress payments or final payment does not relieve the Contractor from its responsibility for the Work or its responsibility to repair, replace, or otherwise make good defective Work, materials or equipment. Likewise, the making of a payment does not constitute a waiver of the Port's right to reject defective or non-conforming Work, materials, or equipment (even though they are covered by the payment), nor is it a waiver of any other rights of the Port.
- B. Acceptance of final payment waives claims. Acceptance of final payment by the Contractor, a Subcontractor of any tier or a supplier shall constitute a waiver of claims except those previously made in writing and identified as unsettled in Contractor's final Application for Payment.
- C. Execution of Change Order waives claims. The execution of a Change Order shall constitute a waiver of claims by the Contractor arising out of the Work to be performed or deleted pursuant to the Change Order, except as specifically described in the Change Order.

7.09 LIENS

- A. Contractor to discharge liens. The Contractor shall promptly pay (and secure the discharge of any liens asserted by) all persons properly furnishing labor, equipment, materials or other items in connection with the performance of the Work (including, but not limited to, any Subcontractors of any tier).

ARTICLE 8 - CHANGES IN THE WORK

8.01 CHANGES IN THE WORK

- A. Changes in the Work authorized. Without invalidating the Contract and without notice to the Contractor's surety, the Port may authorize changes in the Work after execution of the Contract, including changes in the Contract Sum or Contract Time. Changes shall occur solely by Change Order, Unilateral Change Directive, or Minor Change in Work. All changes in the Work are effective immediately and the Contractor shall proceed promptly to perform the change, unless otherwise provided in the Change Order or Directive.
- B. Changes in the Work Defined.
 1. A Change Order is a written instrument signed by the Port and Contractor stating their agreement to a change in the Work and the adjustment, if any, in the Contract Sum and/or Contract Time.
 2. A Unilateral Change Directive is a written instrument issued by the Port to transmit new or revised Drawings, issue additions or modifications to the Contract, furnish other direction and documents adjustment, if any, to the Contract Sum and/or Contract Time. A Unilateral Change Directive is signed only by the Port, without requiring the consent or signature of the Contractor.

3. A Minor Change in the Work is a written order from the Port directing a change that does not involve an adjustment to the Contract Sum or the Contract Time.
- C. Request for Proposal: At any time, the Port may issue a Proposal Request directing the Contractor to propose a change to the Contract Sum and/or Contract Time, if any, based on a proposed change in the Work. The Contractor shall submit a responsive Change Order proposal as soon as possible and no later than fourteen (14) days after receipt in which the Contractor specifies in good faith the extent to which the Contract Sum and/or Contract Time would change. All cost components shall be limited to the manner described in Section 8.02(B). If the Contractor fails to timely respond to a Proposal Request, the Port may issue the change as a Unilateral Change Directive.
 1. Fixed price method is default for Contractor Change Order proposal. When the Port has requested that the Contractor submit a Change Order proposal, the Port may specify the basis on which the Contract Sum will be adjusted by the Contractor. The Engineer's preference, unless otherwise indicated, is for changes in the Work to be priced using Lump Sums or Unit Prices or on a time and material (Force Account) basis if unit pricing or lump sums cannot be negotiated or determined. In all instances, however, proposed changes shall include a not-to-exceed price for the change and shall be itemized for evaluation purposes in accordance with Section 8.02(B), as requested by the Engineer.
 2. The Port may accept or reject the Contractor's Change Order proposal, request further documentation, or negotiate acceptable terms with the Contractor. If The Port and Contractor reach agreement on the terms of any change in the Work, including any adjustment in the Contract Sum or Contract Time, such agreement shall be incorporated in a Change Order.
 3. The Change Order shall constitute full payment and final settlement of all claims for time and for direct, indirect, and consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity, related to any Work either covered or affected by the Change Order, or related to the events giving rise to the request for equitable adjustment. The Port may reject a proposal, in which case the Port may either not effectuate the change or issue a Unilateral Change Directive. The Port will not make payment to the Contractor for any work until that work has been incorporated into an executed Change Order.
- D. Unforeseen Conditions: If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or any soils reports made available by the Port to the Contractor or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall immediately provide oral notice to the Engineer before conditions are disturbed, followed within 24 hours by an initial written notice. The Contractor shall submit a detailed proposal no later than seven (7) days following discovery of differing site conditions. The Engineer will promptly investigate these conditions and, if the Engineer determines that they differ materially and cause an increase or decrease in the Contractor's cost or time required for, performance of any part of the Work, will establish a change in the Contract Sum or Contract Time, or both, consistent with the requirements of the Contract Documents. If the Contractor disputes the Engineer's determination, the Contractor may proceed as provided in the dispute resolution procedure (Article 11). No increase to the Contract Sum or the Contract Time shall be allowed if the Contractor does not comply with the contractual requirements or if the Contractor knew or reasonably should have known of the concealed conditions prior to executing the Contract.

E. Proceed Immediately: Pending agreement on the terms of the Change Order or upon determination of a differing site condition as defined in 8.01(D), the Engineer may direct Contractor to proceed immediately with the change in the Work. Contractor shall not proceed with any change in the Work until it has obtained the Engineer's written approval and documentation of the following:

1. The scope of work
2. An agreed upon maximum not-to-exceed amount
3. The method of final cost determination
4. Estimated time to complete the changed work.
5. As a change in the Work is performed, unless the parties have signed a written Change Order to establish the cost of the change, the Contractor shall maintain an itemized accounting of all costs related to the change based on the categories in Section 8.02(B) and provide such data to the Port upon request. This includes, without limitation, invoices, including freight and express bills, and other support for all material, equipment, Subcontractor, and other charges related to the change and, for material furnished from the Contractor's own inventory, a sworn affidavit certifying the actual cost of such material. Failure to provide data to the Port within seven (7) days of a request constitutes a waiver of any claim. The Port may furnish any material or equipment to the Contractor that it deems advisable, and the Contractor shall have no claim for any costs or fee on such material or equipment.

F. Procedure for Unilateral Change Directive. Whether or not the Port has rejected a Contractor's proposal, the Port may issue a Unilateral Change Directive and the Contractor shall promptly proceed with the specified Work. If the Contractor disagrees with a Unilateral Change Directive, the Contractor shall advise the Port in writing through a Change Order proposal within seven (7) days of receipt. The Contractor's Change Order proposal shall reasonably specify the reasons for any disagreement and the adjustment it proposes. Without this timely Change Order proposal, the Contractor shall conclusively be deemed to have accepted the Port's proposal.

G. Payment pending final determination of Force Account work. Pending final determination of the total cost of Force Account Work, and provided that the Work to be performed under Force Account is complete and any reservations of rights have been signed by the Port, the Contractor may request payment for amounts not in dispute in the next Application for Payment accompanied by documentation indicating the parties' agreement. Work done on a Force Account basis must be approved in writing on a daily basis by the Engineer or the Engineer's designee and invoices shall be submitted with an Application for Payment within sixty (60) days of performance of the Work.

8.02 CHANGES IN THE CONTRACT SUM

A. Port to Decide How Changes are Measured. The Port may elect, in its sole discretion, how changes in the Work will be measured for payment. Change in the Work may be priced on a lump sum basis, through Unit Prices, as Force Account, or by another method documented in the executed Change Order, Unilateral Change Directive or Minor Change in the Work.

B. Determination of Cost of Change. The total cost of any change in the Work, including a claim under Article 11, shall not exceed the prevailing cost for the Work in the locality of the Project. In all circumstances, the change in the Work shall be limited to the reasonable, actual cost of the following components:

1. Direct labor costs: These are the actual labor costs determined by the number of additional craft hours at their normal hourly rate necessary to perform a change in the Work. The hourly cost of labor will be based upon the following:
 - a. Basic wages and fringe benefits: The hourly wage (without markup or labor burden) and fringe benefits paid by the Contractor as established by the Washington Department of Labor and Industries or contributed to labor trust funds as itemized fringe benefits, whichever is applicable, not to exceed that specified in the applicable "Intent to Pay Prevailing Wage," for the laborers, apprentices, journeymen, and foremen performing or directly supervising the change in the Work on site. These wages do not include the cost of Contractor's project manager or superintendent or above, and the premium portion of overtime wages is not included unless pre-approved in writing by the Port. Costs paid or incurred by the Contractor for vacations, per diem, subsistence, housing, travel, bonuses, stock options, or discretionary payments to employees are not separately reimbursable. The Contractor shall provide to the Port copies of payroll records, including certified payroll statements for itself and Subcontractors of any tier, upon the Port's request.
 - b. Workers' insurance: Direct contributions to the State of Washington as industrial insurance; medical aid; and supplemental pension by class and rates established by the Washington Department of Labor and Industries.
 - c. Federal insurance: Direct contributions required by the Federal Insurance Compensation Act (FICA); Federal Unemployment Tax Act (FUTA); and State Unemployment Compensation Act (SUCA).
2. Direct material costs: This is an itemization, including material invoices, of the quantity and actual cost of additional materials necessary to perform the change in the Work. The cost will be the net cost after all discounts or rebates, freight costs, express charges, or special delivery costs, when applicable. No lump sum costs will be allowed unless approved in advance by the Port.
3. Construction equipment usage costs: This is an itemization of the actual length of time that construction equipment necessary and appropriate for the Work is used solely on the changed Work times the applicable rental cost as established by the lower of the local prevailing rates published in www.equipmentwatch.com, as modified by the AGC/WSDOT agreement, or the actual rate paid to an unrelated third party. If more than one rate is applicable, the lowest available rate will be utilized. Rates and quantities of equipment rented that exceed the local fair market rental costs shall be subject to the Port's prior written approval. Total rental charges for equipment or tools shall not exceed 75% of the fair market purchase value of the equipment or the tool. Actual, reasonable mobilization costs are permitted if the equipment is brought to the site solely for the change in the Work. Mobilization and standby costs shall not be charged for equipment already present on the site.

The rates in effect at the time of the performance of the changed Work are the maximum rates allowable for equipment of modern design and in good working condition and include full compensation for furnishing all fuel, oil, lubrication, repairs, maintenance, and insurance. No gas surcharges are payable. Equipment not of modern design and/or not in good working condition will have lower rates. Hourly, weekly, and/or monthly rates, as appropriate, will be applied to yield the lowest total cost.
4. Subcontractor costs: These are payments the Contractor makes to Subcontractors for changed Work performed by Subcontractors. The Subcontractors' cost of changed Work shall be determined in the same manner as prescribed in this Section 8.02 and, among

other things, shall not include consultant costs, attorneys' fees, or claim preparation expenses.

5. Service provider costs: These are payments the Contractor makes to service providers for changed Work performed by service providers. The service providers' cost of changed Work shall be determined in the same manner as prescribed in this Section 8.02.
6. Markup: This is the maximum total amount for overhead, profit and other costs, including office, home office and site overhead (including purchasing, project manager, superintendent, project engineer, estimator, and their vehicles and clerical assistants), taxes (except for sales tax on the Contract Sum), warranty, safety costs, printing and copying, layout and control, quality control/assurance, small or hand tools (a tool that costs \$500 or less and is normally furnished by the performing contractor), preparation of as-built drawings, impact on unchanged Work, Change Order and/or claim preparation, and delay and impact costs of any kind (cumulative, ripple, or otherwise), added to the total cost to the Port of any Change Order work. No markup shall be due, however, for direct settlements of Subcontractor claims by the Port after Substantial Completion. The markup shall be limited in all cases to the following schedule:
 - a. Direct labor costs -- 20% markup on the direct cost of labor for the party (Contractor or Subcontractor) providing labor related to the change in the Work;
 - b. Direct material costs -- 20% markup on the direct cost of material for the party (Contractor or Subcontractor) providing material related to the change in the Work;
 - c. Construction equipment usage costs -- 10% markup on the direct cost of equipment for the party (Contractor or Subcontractor) providing equipment related to the change in the Work;
 - d. Contractor markup on Subcontractor costs -- 10% markup for the Contractor on the direct cost (excluding markup) of a change in the Work performed by Subcontractors (and for Subcontractors, for a change in the Work performed by lower-tier Subcontractors); and
 - e. Service provider costs -- 5% markup for the Contractor on the direct cost (excluding markup) of a change in the Work performed by service providers.

The total summed markup of the Contractor and all Subcontractors of any tier shall not exceed 30% of the direct costs of the change in the Work. If the markup would otherwise exceed 30%, the Contractor shall proportionately reduce the markup for the Contractor and all Subcontractors of any tier.

7. Cost of change in insurance or bond premium. This is defined as:
 - a. Contractor's liability insurance: The actual cost (expressed as a percentage submitted with the certificate of insurance provided under the Contract Documents and subject to audit) of the Contractor's liability insurance arising directly from the changed Work; and
 - b. Public works bond: The actual cost (expressed as a percentage submitted under the Contract Documents and subject to audit) of the Contractor's performance and payment bond arising directly from the changed Work.

Upon request, the Contractor shall provide the Port with supporting documentation from its insurer or surety of any associated cost incurred. The cost of the insurance or bond premium together shall not exceed 2.0% of the cost of the changed Work.

8. Unit Prices. If Unit Prices are specified in the Contract Documents or established by agreement of the parties for certain Work, the Port may apply them to the changed Work. Unit Prices shall include pre-agreed rates for material quantities and shall include reimbursement for all direct and indirect costs of the Work, including overhead, profit, bond, and insurance costs arising out of or related to the Unit Priced item. Quantities must be supported by field measurement statements signed by the Port, and the Port shall have access as necessary for quantity measurement. The Port shall not be responsible for not-to-exceed limit(s) without its prior written approval.

8.03 CHANGES IN THE CONTRACT TIME

- A. Extension of the Contract Time. If the Contractor is delayed at any time in the commencement or progress of the Work by events for which the Port is responsible, by unanticipated abnormal weather (subject to Section 8.03(E) below), or by other causes not the fault or responsibility of the Contractor that the Port determines may justify a delay in the Contract Time, then the Contract Time shall be extended by Change Order for such reasonable time as the Port may determine. In no event, however, shall the Contractor be entitled to any extension of time absent proof of (1) delay to an activity on the critical path of the Project, or (2) delay transforming an activity to the critical path, so as to actually delay the anticipated date of Substantial Completion.
- B. Allocation of responsibility for delay not caused by Port or Contractor. If a delay was not caused by the Port, the Contractor, or anyone acting on behalf of any of them, the Contractor is entitled only to an increase in the Contract Time but not an increase in the Contract Sum.
- C. Allocation of responsibility for delay caused by Port. If a delay was caused by the Port or someone acting on behalf of the Port and affected the critical path, the Contractor shall be entitled to a change in the Contract Time and Contract Sum in accordance with Section 8.02. The Contractor shall not recover damages, an equitable adjustment or an increase in the Contract Sum or Contract Time from the Port, however, where the Contractor could reasonably have avoided the delay. The Port is not obligated directly or indirectly for damages for any delay suffered by a Subcontractor of any tier that does not increase the Contract Time.
- D. Allocation of responsibility for delay caused by Contractor. If a delay was caused by the Contractor, a Subcontractor of any tier, or anyone acting on behalf of any of them, the Contractor is not entitled to an increase in the Contract Time or in the Contract Sum.
- E. Adverse weather. If adverse weather is identified as the basis for a claim for additional time, the claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not reasonably have been anticipated and had an adverse effect on the critical path of construction, and that the Work was on schedule (or not behind schedule through the fault of the Contractor) at the time the adverse weather conditions occurred. Neither the Contract Time nor the Contract Sum will be adjusted for normal inclement weather. For a claim based on adverse weather, the Contractor shall be eligible only for a change in the Contract Time (but not a change in the Contract Sum) if the Contractor can substantiate that there was significantly greater than normal inclement weather considering the full term of the Contract Time.
- F. Damages for delay. In the event the Contractor (including any Subcontractors of any tier) is held to be entitled to damages from the Port for delay beyond the amount permitted in Section 8.02(B), the total combined damages to the Contractor and any Subcontractors of any tier for each day of delay shall be limited to the same daily liquidated damage rate specified in the Contract Documents due the Port for the Contractor's delay in achieving Substantial Completion. By submitting a bid on the Work and executing the Contract, the Contractor represents that these liquidated damages are a reasonable estimate of its loss.

G. Limitation on damages. The Contractor shall not be entitled to damages arising out of loss of efficiency; morale, fatigue, attitude, or labor rhythm; constructive acceleration; home office overhead; expectant under run; trade stacking; reassignment of workers; rescheduling of Work, concurrent operations; dilution of supervision; learning curve; beneficial or joint occupancy; logistics; ripple; season change; extended or increased overhead or general conditions; profit upon damages for delay; impact damages including cumulative impacts; or similar damages. Any effect that such alleged costs may have upon the Contractor or its Subcontractors of any tier is fully compensated through the markup on Change Orders paid through Section 8.02(B) and any liquidated damages paid hereunder.

8.04 RESERVATION OF RIGHTS

A. Reservations of rights void unless signed by Port. Reservations of rights will be deemed waived and are void unless any reserved rights are described in detail and are signed by the Contractor and the Port.

B. Procedure for unsigned reservations of rights. If the Contractor adds a reservation of rights not signed by the Port to any Change Order, Unilateral Change Directive, Change Order proposal, Application for Payment or any other document, all amounts and all Work therein shall be considered disputed and not payable until costs are re-negotiated or the reservation is withdrawn or changed in a manner satisfactory to and signed by the Port. If the Port makes payment based on a document that contains a reservation of rights not signed by the Port, and if the Contractor cashes such payment, then the reservation of rights shall be deemed waived, withdrawn and of no effect.

8.05 UNIT PRICES

A. Adjustment to Unit Prices. If Unit Prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed (less than eighty percent (80%) or more than one hundred and twenty percent (120%) of the quantity estimated) so that application of a Unit Price would be substantially unfair, the applicable Unit Price but not the Contract Time shall be adjusted if the Port prospectively approves a Change Order revising the Unit Price.

B. Procedure to change Unit Prices. The Contractor or Port may request a Change Order revising a Unit Price by submitting information to support the change. A proposed change to a Unit Price will be evaluated by the Port based on the change in cost resulting solely from the change in quantity, any change in production rate or method as compared to the original plan, and the share, if any, of fixed expenses properly chargeable to the item. If the Port and Contractor agree on the change, a Change Order will be executed. If the parties cannot agree, the Contractor shall comply with the dispute resolution procedures (Article 11).

ARTICLE 9 - SUSPENSION AND TERMINATION OF CONTRACT

9.01 PORT'S RIGHT TO SUSPEND WORK

A. Port may suspend the Work. The Port may at any time suspend the Work, or any part thereof, by giving notice to the Contractor. The Work shall be resumed by the Contractor as soon as possible, but no later than fourteen (14) days after the date fixed in a notice to resume the Work. The Port shall reimburse the Contractor for appropriate and reasonable expenses consistent with Section 8.02 incurred by the Contractor as a result of the suspension, except where a suspension is the result of the Contractor repeatedly or materially failing to carry out or correct the Work in accordance with the Contract Documents, and the Contractor shall take all necessary steps to minimize expenses.

B. Contractor obligations. During any suspension of Work, the Contractor shall take every precaution to prevent damage to, or deterioration of, the Work. The Contractor shall be responsible for all damage or deterioration to the Work during the period of suspension and shall, at its sole expense, correct or restore the Work to a condition acceptable to the Port prior to resuming Work.

9.02 TERMINATION OF CONTRACT FOR CAUSE BY THE PORT

A. Port may terminate for cause. If the Contractor is adjudged bankrupt or makes a general assignment for the benefit of the Contractor's creditors, if a receiver is appointed due to the Contractor's insolvency, or if the Contractor, in the opinion of the Port, persistently or materially refuses or fails to supply enough properly skilled workmen or materials for proper completion of the Contract, fails to make prompt payment to Subcontractors or suppliers for material or labor, disregards laws, ordinances, or the instructions of the Port, fails to prosecute the Work continuously with promptness and diligence, or otherwise materially violates any provision of the Contract, then the Port, without prejudice to any other right or remedy, may terminate the Contractor after giving the Contractor seven (7) days' written notice (during which period the Contractor shall have the right to cure).

B. Procedure following termination for cause. Following a termination for cause, the Port may take possession of the Project site and all materials and equipment, and utilize such materials and equipment to finish the Work. The Port may also exclude the Contractor from the Project site(s). If the Port elects to complete all or a portion of the Work, it may do so as it sees fit. The Port shall not be required to accept the lowest bid for completion of the Work and may choose to complete all or a portion of the Work using its own work force. If the Port elects to complete all or a portion of the Work, the Contractor shall not be entitled to any further payment until the Work is finished. If the expense of finishing the Work, including compensation for additional managerial and administrative services of the Port, exceeds the unpaid balance of the Contract Sum, the excess shall be paid by the Contractor.

C. Port's remedies following termination for cause. The Port may exercise any rights, claims or demands that the Contractor may have against third persons in connection with the Contract, and for this purpose the Contractor assigns and transfers to the Port all such rights, claims and demands.

D. Inadequate termination for cause converted to termination for convenience. If, after the Contractor has been terminated for cause, it is determined that inadequate "cause" for such termination exists, then the termination shall be considered a termination for convenience pursuant to Section 9.03.

9.03 TERMINATION OF CONTRACT FOR CONVENIENCE BY THE PORT

A. Port may terminate for convenience. The Port may, at any time (without prejudice to any right or remedy of the Port), terminate all or any portion of the Contract for the Port's convenience and without cause. The Contractor shall be entitled to receive payment consistent with the Contract Documents only for Work properly executed through the date of termination, and costs necessarily incurred by reason of the termination (such as the cost of settling and paying claims arising out of the termination under subcontracts or orders), along with a fee of one percent (1%) of the Contract Sum not yet earned on the whole or part of the Work. The total amount to be paid to the Contractor shall not exceed the Contract Sum as reduced by the amount of payments otherwise made. The Port shall have title to all Work performed through the date of termination.

9.04 TERMINATION OF CONTRACT BY THE CONTRACTOR

- A. Contractor may terminate for cause. The Contractor may terminate the Contract if the Work is stopped for a period of sixty (60) consecutive days through no act or fault of the Contractor or a Subcontractor of any tier, for either of the following reasons:
 - 1. Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or
 - 2. An act of government, such as a declaration of national emergency that requires all Work to be stopped.
- B. Procedure for Contractor termination. If one of the reasons described in Section 9.04A exists, the Contractor may, upon seven (7) days' written notice to the Port (during which period the Port has the opportunity to cure), terminate the Contract and recover from the Port payment for Work executed through the date of termination in accordance with the Contract Documents and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead and profit on Work executed and direct costs incurred by reason of such termination. The total recovery of the Contractor shall not exceed the unpaid balance of the Contract Sum.
- C. Contractor may stop the Work for failure of Port to pay undisputed amounts. The Contractor may stop Work under the Contract if the Port does not pay undisputed amounts due and owing to the Contractor within fifteen (15) days of the date established in the Contract Documents. If the Port fails to pay undisputed amounts, the Contractor may, upon fifteen (15) additional days' written notice to the Port, during which the Port can cure, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately, and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up.

9.05 SUBCONTRACT ASSIGNMENT UPON TERMINATION

- A. Subcontracts assigned upon termination. Each subcontract is hereby assigned by the Contractor to the Port provided that:
 - 1. The Port requests that the subcontract be assigned;
 - 2. The assignment is effective only after termination by the Port and only for those subcontracts that the Port accepts in writing; and
 - a. The assignment is subject to the prior rights of the surety, if any, under any bond issued in accordance with the Contract Documents.

When the Port accepts the assignment of a subcontract, the Port assumes the Contractor's rights and obligations under the subcontract, but only for events and payment obligations that arise after the date of the assignment.

ARTICLE 10 - BONDS

10.01 CONTRACTOR PERFORMANCE AND PAYMENT BONDS

- A. Contractor to furnish performance and payment bonds. Within ten (10) days following its receipt of a notice of award, and as part of the Contract Sum, the Contractor shall secure and furnish duly executed performance and payment bonds using the forms furnished by the Port. The bonds shall be executed by a surety (or sureties) reasonably acceptable to the Port, admitted and licensed in the State of Washington, registered with the Washington State Insurance Commissioner, and possessing an A.M. Best rating of "A minus, FSC (6)" or better and be authorized by the U.S. Department of the Treasury. Pursuant to RCW 39.08, the bonds

shall be in an amount equal to the Contract Sum, and shall be conditioned only upon the faithful performance of the Contract by the Contractor within the Contract Time and upon the payment by the Contractor of all taxes, fees, and penalties to the State of Washington and all laborers, Subcontractors, and suppliers, and others who supply provisions, equipment, or supplies for the performance of the Work covered by this Contract. The bonds shall be signed by the person or persons legally authorized to bind the Contractor.

B. Port may notify surety. If the Port makes or receives a claim against the Contractor, the Port may, but is not obligated to, notify the Contractor's surety of the nature and amount of the claim. If the claim relates to a possibility of a Contractor's default, the Port may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

ARTICLE 11 - DISPUTE RESOLUTION

11.01 NOTICE OF PROTEST AND CLAIM

A. Dispute resolution procedure mandatory. All claims, direct or indirect, arising out of, or relating to, the Contract Documents or the breach thereof, shall be decided exclusively by the following alternative dispute resolution procedure unless the parties mutually agree otherwise. If the Port and Contractor agree to a partnering process to assist in the resolution of disputes, the partnering process shall occur prior to, and not be in place of, the mandatory dispute resolution procedures set forth below.

B. Notice of protest defined. Except for claims requiring notice before proceeding with the affected Work as otherwise described in the Contract Documents, the Contractor shall provide immediate oral notice of protest to the Engineer prior to performing any disputed Work and shall submit a written notice of protest to the Port within seven (7) days of the occurrence of the event giving rise to the protest that includes a clear description of the event(s). The protest shall identify any point of disagreement, those portions of the Contract Documents believed to be applicable, and an estimate of quantities and costs involved. When a protest relates to cost, the Contractor shall keep full and complete records and shall permit the Port to have access to those records at any time as requested by the Port.

C. Claim defined. A claim is a demand by one of the parties seeking adjustment or interpretation of the Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract Documents. The term "claim" also includes all disputes and matters in question between the Port and Contractor arising out of or relating to the Contract Documents. Claims must be initiated in writing and include a detailed factual statement and clear description of the claim providing all necessary dates, locations and items of Work, the date or dates on which the events occurred that give rise to the claim, the names of employees or representatives knowledgeable about the claim, the specific provisions of the Contract Documents that support the claim, any documents or oral communications that support the claim, any proposed change in the Contract Sum (showing all components and calculations) and/or Contract Time (showing cause and analysis of the resultant delay in the critical path), and all other data supporting the claim. Claims shall also be submitted with a statement certifying, under penalty of perjury, that the claim as submitted is made in good faith, that the supporting cost and pricing data are true and accurate to the best of Contractor's knowledge and belief, that the claim is fully supported, and that the amount requested accurately reflects the adjustment in the Contract Sum or Contract Time for which Contractor believes the Port is liable. A claim shall be deemed to include all changes, direct and indirect, in cost and in time to which the Contractor and Subcontractors of any tier are entitled and may not contain reservations of rights without the Port's written approval; any unapproved reservations of rights shall be without effect.

- D. Claim procedure. The Contractor shall submit a written claim within thirty (30) days of providing written notice of protest. The Contractor may delay submitting supporting data by an additional thirty (30) days if it notifies the Port in its claim that substantial data must be assembled. Any claim of a Subcontractor of any tier may be brought only through, and after review by and concurrence of, the Contractor.
- E. Failure to comply with notice of protest and claim requirements waives claims. Any notice of protest by the Contractor and any claim of the Contractor, whether under the Contract or otherwise, must be made pursuant to and in strict accordance with the applicable provisions of the Contract. Failure to properly and timely submit a notice of protest or to timely submit a claim shall waive the claim. No act, omission, or knowledge, actual or constructive, of the Port shall waive the requirement for timely written notice of protest and a timely written claim unless the Port and the Contractor sign an explicit, unequivocal written waiver approved by the Port. The Contractor expressly acknowledges and agrees that the Contractor's failure to timely submit required notices of protest and/or timely submit claims has a substantial impact upon and prejudices the Port. For the purpose of calculating time periods, an "event giving rise to a claim," among other things, is not a Request for Information but rather is a response that the Contractor believes would change the Contract Sum and/or Contract Time.
- F. False claims. The Contractor shall not make any fraudulent misrepresentations, concealments, errors, omissions, or inducements to the Port in the formation or performance of the Contract. If the Contractor or a Subcontractor of any tier submits a false or frivolous claim to the Port, which for purposes of this Section 11.01(F) is defined as a claim based in whole or in part on a materially incorrect fact, statement, representation, assertion, or record, the Port shall be entitled to collect from the Contractor by offset or otherwise (without prejudice to any right or remedy of the Port) any and all costs and expenses, including investigation and consultant costs, incurred by the Port in investigating, responding to, and defending against the false or frivolous claim.
- G. Compliance with lien and retainage statutes required. If a claim relates to or is the subject of a lien or retainage claim, the party asserting the claim may proceed in accordance with applicable law to comply with the notice and filing deadlines prior to resolution of the claim by mediation or by litigation.
- H. Performance required pending claim resolution. Pending final resolution of a claim, the Contractor shall continue to perform the Contract and maintain the Progress Schedule, and the Port shall continue to make payments of undisputed amounts due in accordance with the Contract Documents.

11.02 MEDIATION

- A. Claims must be subject to mediation. At any time following the Port's receipt of a written claim, the Port may require that an officer of the Contractor and the Port's designee (all with authority to settle) meet, confer, and attempt to resolve a claim. If the claim is not resolved during this meeting, the claim shall be subject to mandatory mediation as a condition precedent to the initiation of litigation. This requirement can be waived only by an explicit, written waiver signed by the Port and the Contractor.
- B. Mediation procedure. A request for mediation shall be filed in writing with the other party to the Contract, and the parties shall promptly attempt to agree upon a mediator. If the parties have not reached agreement within thirty (30) days of the request, either party may file the request with the American Arbitration Association or such other alternative dispute resolution service to which the parties mutually agree, with a copy to the other party, and the mediation shall be administered by the American Arbitration Association (or other agreed service). The parties to the mediation shall share the mediator's fee and any filing fees equally. The mediation shall be

held in Pierce County, Washington unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof. Unless the Port and the Contractor mutually agree in writing otherwise, all claims shall be considered at a mediation session that shall occur prior to Final Completion.

11.03 LITIGATION

- A. Claims not resolved by mediation are subject to litigation. Claims not resolved through mediation shall be resolved by litigation unless the parties mutually agree otherwise. The venue for any litigation shall be Pierce County, Washington. The Contractor may bring no litigation on claims unless such claims have been properly raised and considered in the procedures of this Article 11. The Contractor must demonstrate in any litigation that it complied with all requirements of this Article.
- B. Litigation must be commenced promptly. All unresolved claims of the Contractor shall be waived and released unless the Contractor has complied with the requirements of the Contract Documents, and litigation is served and filed within 180 days of the date of Substantial Completion approved in writing by the Port or termination of the Contract. The pendency of mediation (the time period between receipt by the non-requesting party of a written mediation request and the date of mediation) shall toll these deadlines until the earlier of the mediator providing written notice to the parties of impasse or thirty (30) days after the date of the mediation session.
- C. Port not responsible for attorneys' fees. Neither the Contractor nor a Subcontractor of any tier, whether claiming under a bond or lien statute or otherwise, shall be entitled to attorneys' fees directly or indirectly from the Port (but may recover attorneys' fees from the bond or statutory retainage fund itself to the extent allowable under law).
- D. Port may join Contractor in dispute. The Port may join the Contractor as a party to any litigation or arbitration involving the alleged fault, responsibility, or breach of contract of the Contractor or Subcontractor of any tier.

ARTICLE 12 - MISCELLANEOUS

12.01 GENERAL

- A. Rights and remedies are cumulative. The rights and remedies of the Port set forth in the Contract Documents are cumulative and in addition to and not in limitation of any rights and remedies otherwise available to the Port. The pursuit of any remedy by the Port shall not be construed to bar the Port from the pursuit of any other remedy in the event of similar, different, or subsequent breaches of this Contract. All such rights of the Port shall survive completion of the Project or termination of the Contractor.
- B. Reserved rights do not give rise to duty. The rights reserved or possessed by the Port to take any action shall not give rise to a duty for the Port to exercise any such right.

12.02 WAIVER

- A. Waiver must be in writing and authorized by Port. Waiver of any provisions of the Contract Documents must be in writing and authorized by the Port. No other waiver is valid on behalf of the Port.
- B. Inaction or delay not a waiver. No action, delay in acting, or failure to act by the Port shall constitute a waiver of any right or remedy of the Port, or constitute an approval or acquiescence of any breach or defect in the Work. Nor shall any delay or failure of the Port to act waive or otherwise prejudice the right of the Port to enforce a right or remedy at any subsequent time.

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS
SECTION 00 72 00 - GENERAL CONDITIONS

C. Claim negotiation not a waiver. The fact that the Port and the Contractor may consider, discuss, or negotiate a claim that has or may have been defective or untimely under the Contract shall not constitute a waiver of the provisions of the Contract Documents unless the Port and the Contractor sign an explicit, unequivocal waiver.

12.03 GOVERNING LAW

A. Washington law governs. This Contract and the rights and duties of the parties hereunder shall be governed by the internal laws of the State of Washington, without regard to its conflict of law principles.

12.04 COMPLIANCE WITH LAW

A. Contractor to comply with applicable laws. The Contractor shall at all times comply with all applicable Federal, State and local laws, ordinances, and regulations. This compliance shall include, but is not limited to, the payment of all applicable taxes, royalties, license fees, penalties, and duties.

B. Contractor to provide required notices. The Contractor shall give notices required by all applicable Federal, State, and local laws, ordinances and regulations bearing on the Work.

C. Contractor to confine operations at site to permitted areas. The Contractor shall confine operations at the Project site to areas permitted by applicable laws, ordinances, permits, rules and regulations, and lawful orders of public authorities and the Contract Documents.

12.05 ASSIGNMENT

A. Assignment. The Port and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party and to the partners, successors, assigns and legal representatives of such other party. The Contractor may not assign, transfer, or novate all or any portion of the Contract, including but not limited to any claim or right to the Contract Sum, without the Port's prior written consent. If the Contractor attempts to make an assignment, transfer, or novation without the Port's consent, the assignment shall be of no effect, and Contractor shall nevertheless remain legally responsible for all obligations under the Contract. The Contractor also shall not assign or transfer to any third party any claims it may have against the Port arising under the Contract or otherwise related to the Project.

12.06 TIME LIMIT ON CAUSES OF ACTION

A. Time limit on causes of action. The Port and Contractor shall commence all causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the dispute resolution procedure set forth in Article 11 of these General Conditions, within the time period specified by applicable law, and within the time limits identified in the Contract Documents. The Contractor waives all claims and causes of action not commenced in accordance with this Section 12.06.

12.07 SERVICE OF NOTICE

A. Notice. Written notice under the Contract Documents by either the Contractor or Port may be served on the other party by personal service, electronic or facsimile transmission, or delivery service to the last address provided in writing to the other party. For the purpose of measuring time, notice shall be deemed to be received by the other party on the next business day following the sender's electronic or facsimile transmittal or delivery by delivery service.

12.08 RECORDS

A. Contractor and Subcontractors to maintain records and cooperate with Port audit. The Contractor and Subcontractors of any tier shall maintain books, ledgers, records, documents,

estimates, bids, correspondence, logs, schedules, emails, and other tangible and electronic data and evidence relating or pertaining to costs and/or performance of the Contract ("records") to such extent and in such detail as will properly reflect and fully support compliance with the Contract Documents and with all costs, charges and other amounts of whatever nature. The Contractor shall preserve these records for a period of six (6) years following the date of Final Acceptance under the Contract. Within seven (7) days of the Port's request, both during the Project and for six (6) years following Final Acceptance, the Contractor and Subcontractors of any tier shall make available at their office during normal business hours all records for inspection, audit and reproduction (including electronic reproduction) by the Port or its representatives; failure to fully comply with this requirement shall constitute a material breach of contract and a waiver of all claims by the Contractor and Subcontractors of any tier.

B. Rights under RCW 42.56. The Contractor agrees, on behalf of itself and Subcontractors of any tier, that any rights under Chapter 42.56 RCW will commence at Final Acceptance, and that the invocation of such rights at any time by the Contractor or a Subcontractor of any tier, or their respective representatives, shall initiate an equivalent right to disclosures from the Contractor and Subcontractors of any tier for the benefit of the Port.

12.09 STATUTES

A. Contractor to comply with Washington statutes. The Contractor shall abide by the provisions of all applicable statutes, regulations, and other laws. Although a number of statutes are referenced in the Contract Documents, these references are not meant to be and are not a complete list.

1. Pursuant to RCW 39.06, "Registration, Licensing of Contractors," the Contractor shall be registered and licensed as required by the laws of the State of Washington, including but not limited to RCW 18.27, "Registration of Contractors," and shall satisfy all State of Washington bonding and insurance requirements. The Contractor shall also have a current state unified business identifier number; have industrial insurance coverage for the Contractor's employees working in Washington as required by Title 51 RCW; have an employment security department number as required by Title 50 RCW; have a state excise tax registration number as required in Title 82 RCW, and; not be disqualified from bidding on any public works contract under RCW 39.06.010 (unregistered or unlicensed contractors) or RCW 39.12.065(3) (prevailing wage violations).
2. The Contractor shall comply with all applicable provisions of RCW 49.28, "Hours of Labor."
3. The Contractor shall comply with pertinent statutory provisions relating to public works of RCW 49.60, "Discrimination."
4. The Contractor shall comply with pertinent statutory provisions relating to public works of RCW 70.92, "Provisions in Buildings for Aged and Handicapped Persons," and the Americans with Disabilities Act.
5. Pursuant to RCW 50.24, "Contributions by Employers," in general and RCW 50.24.130 in particular, the Contractor shall pay contributions for wages for personal services performed under this Contract or arrange for an acceptable bond.
6. The Contractor shall comply with pertinent provisions of RCW 49.17, "Washington Industrial Safety and Health Act," and Chapter 296-155 WAC, "Safety Standards for Construction Work."
7. Pursuant to RCW 49.70, "Worker and Community Right to Know Act," and WAC 296-62-054 et seq., the Contractor shall provide to the Port and have copies available at the

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SECTION 00 72 00 - GENERAL CONDITIONS

Project site, a workplace survey or material safety data sheets for all "hazardous" chemicals under the control or use of Contractor or any Subcontractor of any tier.

8. All products and materials incorporated into the Project as part of the Work shall be certified as "asbestos-free" and "lead-free" by United States standards, and shall also be free of all hazardous materials or substances. At the completion of the Project, the Contractor shall submit certifications of asbestos-free and of lead-free materials certifying that all materials and products incorporated into the Work meet the requirements of this Section, and shall also certify that materials and products incorporated into the Work are free of hazardous materials and substances.

END OF SECTION

PART 1 - GENERAL

1.01 DEFINITIONS

- A. Project Work is defined as the scope of work defined for each task order. The general term Work includes the overall scope of the on-call contract for Earthworks in the Tacoma Tideflat and miscellaneous associated tasks.
- B. Project Submittals are submittals due with each task order. General Submittals are for the overall on-call contract for Earthworks services. General Submittals includes all pre-award submittals and additionally (but not limited to) following:
 1. Weighted Wage Rates
 2. Contractors Equipment Rates and List
 3. Emergency Contracts
- C. The Project Manager is the individual identified by the Port as having delegated authority under this contract for the specific task order.

1.02 CONTRACTOR'S COST ESTIMATE

- A. Prior to any work being performed by the Contractor, the Port Project Manager identified for a Task Order will forward the Contractor a proposed scope of work and may additionally request a site visit with the Contractor. The Contractor shall review the proposed scope of work and become familiar with all site conditions and constraints and review the contract documents for specific requirements for the scope of work services.
 1. Contractor shall review with the assigned Project Manager the work restraints, submittals, security and access to the site requirements and all other coordination and task order requirements that may be required and submit all costs associated with the task order with their task order proposal.
- B. The Contractor shall provide the Project Manager with a detailed cost estimate for the proposed scope of work on the template provided by the Port. The Contractor's cost estimate shall identify the estimated unit quantities for the work and, as needed, further labor, material, and equipment costs for the work if no unit price exists for the work being estimated.
 1. For task order work not included in the bid Schedule of Unit Prices, the additional work will be paid preferably as negotiated unit price(s) or lump sum(s) or on a time and material basis if unit pricing or lump sums cannot be negotiated at the time of Task Order negotiation. Contractor shall provide backup information for scope pricing of items not included on the Schedule of Unit Prices when requested by the Project Manager, including as needed work proposed to be performed by a Subcontractor.
 2. The Contractor's cost estimate shall include only those mark-ups allowed by the Contract. Markups for task order pricing on time and material work shall be as defined in Section 00 70 00 - General Conditions, paragraph 8.02 B. The estimate shall include a final project estimate which will be the bases for the task order amount.
 3. The Contractor shall submit its cost estimate within five (5) calendar days of receipt of the proposed scope of work.
 4. Estimates shall also include an estimated start date and an estimated duration, in calendar days, to complete the proposed scope of work.
- C. EXECUTED TASK ORDERS

1. If the Port accepts the Contractor's cost estimate, the Port's Contracting Department will issue the Contractor an executed Task Order for the scope of work defined. The Contractor shall do no work without a fully executed Task Order from the Port. Work shall be coordinated through the Port Project Manager.

D. PROCEEDING WITH THE WORK

1. The Task Order will serve as notice to the Contractor to proceed. The Contractor shall begin work within five (5) calendar days of receipt of the executed Task Order unless otherwise noted and agreed upon with the Port Project Manager. No mobilization on site shall occur until all required pre-work submittals are submitted and accepted by the Project Manager.

E. REVISION OF THE AMOUNT AUTHORIZED

1. The Contractor shall immediately notify the Port Project Manager as soon as it's determined that the work cannot be completed as estimated. The Contractor shall provide the Port Project Manager with a revised estimate and schedule within two (2) calendar days of providing notice. The Contractor shall not proceed with any Work that would result in exceeding the authorized not-to-exceed amount identified in the Task Order without confirmation from the Port Project Manager. Once a revised task order total is negotiated, the Port will issue a revision to the task order.

F. PAYMENT FOR ON-CALL WORK

1. Upon satisfactory completion and acceptance of the Task Order Work, the Contractor shall submit to the Port an invoice for that item of Work. The Contractor shall attach a copy of the Task Order with the invoice. The Port will not make payment on any task order invoice until all required Intents have been filed with L&I (See Section 00 73 49 for Intents and Affidavits for On-Call Contracts).
2. Payment will be based on the Schedule of Unit Prices bid amounts. The Contractor shall include (or attach) the following items pertaining to the project as part of each invoice:
 - a. Port assigned Contract number, and if applicable, Project ID number and Task ID number.
 - b. Quantity and type of Work as described in the Schedule of Unit Prices.
 - c. Copy of signed Contractor Work Authorization.
 - d. Contractor's Partial Release and Waiver of Lien (Form available on Port Website)
 - e. Amounts Paid to Subcontractors and Suppliers (Form available on Port Website)
 - 1) Copies on Intents to Pay Prevailing Wages shall be attached for any new sub-tier contractor doing work for the task order.
3. The invoice shall provide an itemized accounting of the labor, material and equipment costs for the work, all subcontractor work where applicable, and all approved mark-ups. Each invoice shall have backup documentation that supports the invoice including daily work reports, material invoices and equipment rental invoices per the Schedule of Unit Prices.
4. Failure to provide completed invoice information and back-up documentation will delay the payment process and the invoice will be returned to the Contractor for completion.
5. When more than one invoice is submitted for an individual task order, the invoice shall clearly be marked Partial or Final invoice.

1.03 COMPLETION

- A. Substantial Completion will be issued at the completion of each task order once all work is complete and all project submittals have been accepted by the Port and following any revision to the task order, as may be needed, is executed.
 - 1. The Project Manager will issue the Notice of Substantial Completion. Final Task Order Invoices should be submitted within 30 days of the notice.
- B. Final Completion of the Contract will happen once all substantial Completions have been issued and all required submittals have been received by the Port.
- C. Final Acceptance will be issued once all additional required submittals have been accepted by the Port per these contract documents.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 RELATED WORK DESCRIBED ELSEWHERE

- A. The provisions and intent of the Contract, including the General and Supplemental Conditions apply to this work as if specified in this section. Work related to this section is described throughout these Specifications.

1.02 SUBMITTAL REQUIREMENTS

- A. Evidence of the required insurance within 10 days of the issued Notice of Award to the Contractor.
- B. Updated evidence of insurance as required until final completion.

1.03 CONTRACTOR LIABILITY INSURANCE

- A. The Contractor shall secure and maintain until Final Completion, at its sole cost and expense, the following insurance in carriers reasonably acceptable to the Port, licensed in the State of Washington, registered with the Washington State Insurance Commissioner, and possessing an A.M. Best rating of "A-, FSC (6)" or better.
- B. The Port will be included as an additional insured for both ongoing and completed operations by endorsement to the policy using ISO Form CG 20 10 11 85 or forms CG 20 10 03 97 and CG 20 37 10 01 (or equivalent coverage endorsements). Also, by endorsement to the policy, there shall be an express waiver of subrogation in favor of the Port; a cross liabilities clause, and an endorsement stating that the Contractor's policy is primary and not contributory with any insurance carried by the Port. The inclusion of the Port as an additional insured shall not create premium liability for the Port.
- C. If the Contractor, Supplier or Subcontractor's will perform any work requiring the use of a licensed professional per RCW 18 the Contractor shall provide evidence to the Port of professional liability insurance in amounts not less than \$1,000,000.
- D. This insurance shall cover all of the Contractors' operations of whatever nature connected in any way with the Contract, including any operations performed by the Contractor's Subcontractors of any tier. It is the obligation of the Contractor to ensure that all Subcontractors (at whatever level) carry a similar program that provides the identified types of coverage, limits of liability, inclusion of the Port as an additional insured, waiver of subrogation and cross liabilities clause. The Port reserves the right to reject any insurance policy as to company, form, or substance. Contractor's failure to provide or the Port's acceptance of the Contractor's certificate of insurance does not waive the Contractor's obligation to comply with the insurance requirements of the Contract as specifically described below:
 1. Commercial General Liability Insurance on an Occurrence Form Basis including but not limited to:
 - a. Bodily Injury Liability;
 - b. Property Damage Liability;
 - c. Contractual Liability;
 - d. Products - Completed Operations Liability;
 - e. Personal Injury Liability;
 - f. By endorsement to the policy, not exclude work within fifty feet of any railroad track.

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SECTION 00 73 16 - INSURANCE REQUIREMENTS

2. Comprehensive Automobile Liability including but not limited to:
 - a. Bodily Injury Liability;
 - b. Property Damage Liability;
 - c. Personal Injury Liability;
 - d. Owned and Non-Owned Automobile Liability; and
 - e. Hired and Borrowed Automobile Liability.
3. Railroad protective liability issued in name of the railroad and in the limits required by the railroad may be required per task order.
4. Contractor's Pollution Liability (CPL) covering claims for bodily injury, property damage and cleanup costs and environmental damages from pollution conditions arising from the performance of covered operations.
 - a. If the Work involves remediation or abatement of regulated waste to include but not limited to: asbestos containing materials, lead containing products, mercury, PCB, underground storage tanks or other hazardous materials or substances, the CPL policy shall not exclude such coverage or a specific policy covering such exposure shall be required from the Contractor and all Subcontractors performing such Work.
 - b. If the Work involves transporting regulated materials or substances or waste, a separate policy or endorsement to the CPL policy specifically providing coverage for liability and cleanup arising from an upset or collision during transportation of hazardous materials or substances shall be required from the Contractor and all Subcontractors performing such Work.
 - c. It is preferred that CPL insurance shall be on a true occurrence form without a sunset clause. However, if CPL insurance is provided on a Claims Made basis, the policy shall have a retroactive date prior to the start of this project and this insurance shall be kept in force for at least three years after the final completion of this project. Alternatively, the contractor at its option may provide evidence of extended reporting period of not less than three (3) years in its place. The Contractor shall be responsible for providing the Port with certificates of insurance each year evidencing this coverage.
 - d. The Port shall be named as an Additional Insured on the CPL policy.
- E. Except where indicated above, the limits of all insurance required to be provided by the Contractor shall be not less than \$2,000,000 for each occurrence and \$2,000,000 in the aggregate. However, coverage in the amounts of these minimum limits shall not be construed as to relieve the Contractor from liability in excess of such limits. The Additional Insured endorsement shall NOT be limited to the amounts specified by this contract unless expressly waived in writing by the Port of Tacoma.
- F. Contractor shall certify that its operations are covered by the Washington State Worker's Compensation Fund. The Contractor shall provide its Account Number or, if self-insured, its Certificate of Qualification Number. The Contractor shall also provide evidence of Stop-Gap Employers' Liability Insurance.

United States Longshoremen's and Harbor Worker's Act (USL&H) and Jones Act may be required for specific task orders. The Contractor shall be solely responsible for determining the applicability of USL&H and Jones Act coverage when submitting task order proposals. The failure of the Contractor to procure either USL&H or Jones Act coverage shall at no time create liability on the part of the Port. The Contractor shall bear all responsibility and shall indemnify and hold harmless the Port for any and all liability, cost and/or damages.

- G. The Contractor shall furnish within ten (10) days following issuance of the notice of award a certificate of insurance satisfactory to the Port evidencing that insurance in the types and minimum amounts required by the Contract Documents has been secured. The Certificate of Insurance shall be signed by an authorized representative of the insurer together with a copy of the endorsement, which shows that the Port is named as additional insured.
- H. Contractor shall provide at least forty-five (45) days prior written notice to the Port of any termination or material change or ten (10) days notice in the case of non-payment of premium(s).
- I. If the Contractor is required to make corrections to the Work after Final Completion, the Contractor shall obtain at its own expense, prior to the commencement of any corrective work, insurance coverage as required by the Contract Documents, which coverage shall be maintained until the corrections to the Work have been completed and accepted by the Port.

1.04 BUILDER'S RISK INSURANCE

- A. Until Final Completion of the Work, the construction Work is at the risk of the Contractor and no partial payment shall constitute acceptance of the Work or relieve the Contractor of responsibility of completing the Work under the Contract.
- B. Whenever the estimated cost of the Work is less than \$25,000,000, the Port will purchase and maintain, in a company or companies lawfully authorized and admitted to do business in Washington, property insurance written on a builder's risk "all-risk" including Earthquake and Flood with applicable sub-limits, or equivalent policy form to cover the course of construction in the amount of the full insurable value thereof. This property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Port has an insurable interest in the property, whichever is later. This insurance shall include interests of the Port, the Contractor, and Subcontractors of any tier on the Project. There may be some differences between this Section and the builder's risk insurance secured by the Port; therefore, the Contractor shall provide an "installation floater" or similar property coverage for materials not yet installed, whether stored on site or off site or in transit, and the Contractor shall obtain property coverage for all Contractor-owned equipment and tools-each loss may be subject to a deductible. Losses up to the deductible amount shall be the responsibility of the Contractor. All tools and equipment not intended as part of the construction or installation will be the sole responsibility of the Contractor.

PART 2 - PRODUCTS - NOT USED

PART 3 - PRODUCTS - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 PREVAILING AND OTHER REQUIRED WAGES

- A. The Contractor shall pay (and shall ensure that all Subcontractors of any tier pay) all prevailing wages and other wages (such as Davis-Bacon Act wages) applicable to the Project.
- B. Pursuant to RCW 39.12, "Prevailing Wages on Public Works," no worker, laborer, or mechanic employed in the performance of any part of the Work shall be paid less than the "prevailing rate of wage" in effect as of the date that bids are due.
 1. Based on the bid submittal deadline for this project, the applicable effective date for prevailing wages for this project is **March 2nd, 2016**.
- C. The State of Washington prevailing wage rates applicable for this public works project, which is located in Pierce County, may be found at the following website address of the Department of Labor and Industries:

<https://fortress.wa.gov/lni/wagelookup/prvWagelookup.aspx>
- D. The schedule of the prevailing wage rates is made a part of the Contract Documents by reference as though fully set forth herein; and a copy of the applicable prevailing wage rates are also available for viewing at the Port Administration Building, located at One Sitcum Plaza, Tacoma, WA 98421 (253-383-5841). Upon request to the Procurement Department at procurement@portoftacoma.com, the Port will email or mail a hard copy of the applicable Journey Level prevailing wages for this project.
- E. Questions relating to prevailing wage data should be addressed to the Industrial Statistician.

Mailing Address: Washington State Department of Labor and Industries
Prevailing Wage Office
P.O. Box 44540
Olympia, WA 98504

Telephone: (360) 902-5335

Facsimile: (360) 902-5300

1. If there is any discrepancy between the attached or provided schedule of prevailing wage rates and the published rates applicable under WAC 296-127-011, or if no schedule is attached, the applicable published rates shall apply with no increase in the Contract Sum. It is the Contractor's responsibility to ensure that the correct prevailing wage rates are paid.

F. Statement to Pay Prevailing Wages

1. Prior to any payment being made by the Port under this Contract, the Contractor, and each Subcontractor of any tier, shall file a Statement of Intent to Pay Prevailing Wages under oath with the Port and certified by the Director of Labor and Industries.
2. The statement shall include the hourly wage rate to be paid to each classification of workers entitled to prevailing wages, which shall not be less than the prevailing rate of wage, and the estimated number of workers in each classification employed on the Project by the Contractor or a Subcontractor of any tier, as well as the Contractor's contractor registration number and other information required by the Director of Labor and Industries.

3. The statement, and any supplemental statements, shall be filed in accordance with the requirements of the Department of Labor and Industries. No progress payment shall be made until the Port receives such certified statement.
- G. **For On-Call Contracts** - One Intent to Pay Prevailing Wages and a corresponding approved Affidavit of Wages Paid (Affidavits) are to be filed for each 12 month (one year) period of the contract performance for the Contractor and all subcontractors of any tier. Intents for the Contractor and all subcontractors shall be filed prior to any payment for work performed following contract execution. Following the first 12 month period, Affidavits must be received prior to final payment for work performed during the first 12 month period. New Intents shall be filed prior to any payment for work performed during the second 12 month period for the Contractor and all subcontractors. Affidavits from the Contractor and all subcontractors must be received from Washington State's Department of Labor and Industries (L&I) per Article 6 of the General Conditions.
- H. Immediately following the end of all work completed under this Contract, the Contractor, and each Subcontractor of any tier, shall file an approved Affidavit of Wages Paid with the L&I.
- I. The Contractor shall post in a location readily visible to workers at the Project site (1) a copy of the Statement of Intent to Pay Prevailing Wages approved by the Industrial Statistician of the Department of Labor and Industries and (2) the address and telephone number of the Industrial Statistician of the Department of Labor and Industries to whom a complaint or inquiry concerning prevailing wages may be directed.
- J. If a State of Washington prevailing wage rate conflicts with another applicable wage rate (such as Davis-Bacon Act wage rate) for the same labor classification, the higher of the two shall govern.
- K. Pursuant to RCW 39.12.060, if any dispute arises concerning the appropriate prevailing wage rate for work of a similar nature, and the dispute cannot be adjusted by the parties in interest, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries, and his or her decision shall be final and conclusive and binding on all parties involved in the dispute.
- L. The Contractor shall defend (at the Contractor's sole cost, with legal counsel approved by Port), indemnify and hold the Port harmless from all liabilities, obligations, claims, demands, damages, disbursements, lawsuits, losses, fines, penalties, costs and expenses, whether direct, indirect, including but not limited to attorneys' fees and consultants' fees and other costs and expenses, from any violation or alleged violation by the Contractor or any Subcontractor of any tier of RCW 39.12 ("Prevailing Wages on Public Works") or Chapter 51 RCW ("Industrial Insurance"), including but not limited to RCW 51.12.050.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 REQUIREMENTS APPLICABLE PORT-WIDE

- A. The Contractor shall submit prior to the start of work a list of emergency contact numbers for itself and subcontractors, suppliers and manufacturer representatives. Each person on the project site shall have a valid identification card that is tamper proof with laminated photo identification such as one of the following:
 1. State-issued Driver's license (also required if driving a vehicle)
 2. Card issued by a governmental agency
 3. Passport
 4. Identification card issued by the Port of Tacoma
 5. Pacific Maritime Association card, or
 6. Labor organization identification card
- B. Identification cards shall be visible while on the work site or easily displayed when requested.

1.02 TRANSPORTATION WORKER IDENTIFICATION CARD (TWIC) SUMMARY

- A. TWIC is required for all personnel needing unescorted access to secure and restricted areas of Port facilities subject to 33 CFR 105, including truckers, surveyors, construction personnel, and delivery personnel. Secure areas are those areas with security measures for access control in accordance with a Coast Guard approved security plan; restricted areas are those areas within a secure area that require increased limited access and a higher degree of security protection. New terminals under construction prior to terminal operations may not be designated secure areas. Construction on existing maritime transportation facilities and punchlist or other type of work requirements on facilities that have been certified under 33 CFR will require a TWIC.
- B. Contractors should allow for application and enrollment for the security threat assessment and issuance of TWIC when submitting a bid.

1.03 ESCORTING

- A. To access restricted Port facilities, all un-credentialed individuals must be accompanied by a person who has been issued a TWIC and trained as an escort.
- B. For more information, refer to the Port Security website at:
<http://www.portoftacoma.com/Page.aspx?cid=3597>
- C. For project specific information will be on a task order basis and will be worked out at the time of task order execution.

1.04 ELIGIBILITY FOR TWIC

- A. Refer to the Transportation Worker Identification Credential website at:
<https://twicprogram.tsa.dhs.gov/TWICWebApp> for information on eligibility and applying for TWIC.

1.05 1.06 TWIC USE AND DISPLAY

- A. Each worker granted unescorted access to secure areas of a facility or vessel must present their cards to authorized personnel, who will compare the holder to his or her photo, inspect security features on the TWIC and evaluate the card for signs of tampering. The Coast Guard will verify TWIC's when conducting vessel and facility inspections and during spot checks using hand-held scanners, ensuring credentials are valid.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

- A. The Port desires to have available, competitively bid labor, equipment and materials for small projects, on reasonably short notice.
- B. The Work under this contract is to provide, furnish and install all labor, materials and equipment, as required to complete the work, installed, tested, and ready for use, and as described in these documents.

1.02 LOCATION

- A. The work is located Port-wide in the Tacoma Tideflats.

1.03 WORK PERFORMED UNDER SEPARATE CONTRACTS

- A. Before work begins and by way of Engineer, Contractor shall be informed of other contracts which may be in progress in the same or immediate area. The Contractor shall coordinate the progress of its work with the established schedules for completion and phasing.
- B. All present schedules are subject to change due to weather, equipment failure, Port operations, vessel schedules, etc.

1.04 WORK BY OTHERS ON THIS PROJECT

- A. Work by others will be determined at the time of developing the proposal for each Task Order.

1.05 PRE-ORDERED MATERIALS

- A. Port of Tacoma procured items will be determined at the time of the proposal for each Task Order.

1.06 EXISTING MATERIALS

- A. Existing materials to be furnished to the Contractor by the Port of Tacoma will be determined at the time of the proposal for the Task Order.

1.07 ENGINEERING AND INSPECTION

- A. The Engineer will perform the necessary inspection work except as otherwise specified in the Contract Documents. Refer to Section 01 45 00, Quality Control, for general requirements.

1.08 COORDINATION

- A. Port Activities: The Contractor will coordinate its activity with the Engineer or Port Inspector, so interference with Port activities will be minimized. In addition, the Contractor shall carry out work in a manner that minimizes interference and does not delay Port operations.
- B. Specific task order work may include additional work constraints which will be identified by the Engineer at the time of the Task Order proposal and execution.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 PAYMENT PROCEDURES

- A. The Contractor shall bill the Port for each individual project, correlating to the individual Task Order requests as completed, to provide the Port with sufficient information to properly distribute the charges.
 1. Prior to submitting pay estimates to the Port, the Contractor and the Engineer shall review the work accomplished to determine the actual quantities including labor, materials and equipment charges to be billed. All quantity backup documentation shall be submitted to the Engineer listed on the approved task order with the draft pay estimate. Following the Engineer's review, the Contractor shall prepare an original pay estimate with all required documentation attached and submit electronically using Adobe PDF file format to cpinvoices@portoftacoma.com.

1.02 TASK ORDER PRICING

- A. The rate includes required certifications, insurance, benefits and other labor costs not covered by the prevailing wage rate, performance and payment bond, insurance required by the General Conditions, estimating, supervision, overhead and profit, taxes (except that Washington State Sales Tax will be added to each Task Order) and all other costs of supplying labor, equipment and materials and performing the Work.
1. Some of the bid items descriptions are identical but have differing quantities. For each Task Order the Contractor shall estimate the total quantity for each item of work and provide the task order estimate based on the estimated total quantity. Final task order quantities will be determined based on actual quantities, measured as described in each bid item below, and shall be billed utilizing the final unit price quantity.

1.03 PAYMENT PRICING

- A. Pricing for the various lump sum or unit prices in the Bid Form, 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 in accordance with the requirements of the Contract Documents and issued Task Order.
- B. Pricing also includes all costs 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).
 1. All incidental work, including work not specifically identified in the measurement and payment sections identified below, but necessary to complete each line item listed below, shall be included in the bid item prices. Temporary Facilities and Controls, Temporary Erosion and Sediment Control and Construction Pollution Prevention, and traffic control are incidental to the work and shall be included in the bid item prices as appropriate.

1.04 MEASUREMENT PROCEDURES

- A. Measurement will be made in whole units for all types of material, labor, and equipment utilized.
 1. Measurement by weight shall be with State of Washington certified accurate scales at a location or locations approved by the Engineer.

2. The tonnage claimed by the Contractor for all such bid items shall be verified with weigh tickets from the material supplier. One (1) copy of each load ticket shall be attached to the daily report for the day of delivery and shall not be valid for payment unless each daily and ticket(s) have been reviewed and approved by the Engineer.
3. The Engineer reserves the right to reduce the stated tonnage for material which, in the Engineer's opinion, has more than the moisture content required for good compaction.
4. Material received at the job site but not satisfactory to the Engineer shall be rejected. All costs associated with the unsuitable material, including the expense of disposal in waste areas, shall be borne solely by the Contractor.
5. Weighing will be considered incidental to construction and all costs thereof shall be included by the Contractor in the appropriate bid prices for the material being weighed.
6. All equipment, materials, and labor used shall be entered on Daily Report Forms and submitted to the Engineer for Verification against Contractor's application for payment. Submit all daily reports to the Engineer for work performed the previous week no later than the following Monday for concurrence and approval.
7. The unit price paid per ton for these items and the quantities listed in the Schedule of Unit Prices shall include all labor and equipment associated with the furnishing and loading of these materials into truck or trucks and placement as designated in the individual Task Orders.

1.05 MEASUREMENT FOR PAYMENT

- A. Measurement for payment will be at the Lump Sum or Unit Price as stipulated in the Bid Form for the items listed below. Payment shall be considered full compensation for furnishing all labor, materials and equipment to complete the Work specified.

Payment for equipment will not start until the equipment is on site, ready to operate. No payment will be made for equipment that will not function properly, requiring or being repaired, or for lack of the proper personnel to operate it. Equipment is furnished complete with operator or driver and other required service personnel, ready to work, including oilers, etc.

The Port will pay the proposed rate for the required equipment only as long as the operator is required. No standby, non-operating, etc., rate is included or will be paid. The Port agrees to a 4-hour minimum and an 8-hour minimum if used for over 4 hours. The Contractor's general superintendent further agrees to inform the Port Project Manager when the task order is complete prior to release of equipment and operator.

1. BID ITEM NO. 1 - MOBILIZATION AND DEMOBILIZATION

- a. Payment for MOBILIZATION AND DEMOBILIZATION shall be for preparatory and cleanup work and operations performed by the Contractor including, but not limited to, those necessary for the movement of its personnel, equipment, supplies and incidentals to and from the Project Site; for premiums on bonds and insurance for the Project, L&I Intents and Affidavits, TWIC Cards and any necessary escort services, and for other work and operations which must be performed or costs incurred before beginning work on the various items on the Project Site.

Individual Task Orders will have a single mobilization / demobilization cost to the site from the Contractor's facility unless approved by the Engineer in the original estimate.

- b. Mobilization and Demobilization shall be paid at the per each unit price listed in the bid form for each Task Order.

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SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

2. Bid Items No. 2 thru 4 - Excavators
 - a. Use of Excavators shall be measured and paid per hour based on the rate set on the bid form.
3. Bid Item 5 In/Out Costs for items 2, 3 or 4.
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of items 2, 3 or 4 to and from the project site.
4. Bid Items No. 6 thru 8 - Loaders
 - a. Use of Loaders shall be measured and paid per hour based on the rate set on the bid form.
5. Bid Item 9. In/Out Costs for items 6, 7 or 8.
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of items 6, 7 or 8 to and from the project site.
6. Bid Items No. 10 and 11 Crawler Dozers
 - a. Use of Crawler Dozers shall be measured and paid per hour based on the rate set on the bid form.
7. Bid Item 12. In/Out Costs for items 10 or 11.
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of items 10 or 11 to and from the project site.
8. Bid Items No. 13 and 14 Graders
 - a. Use of Graders shall be measured and paid per hour based on the rate set on the bid form.
9. Bid Item 15. In/Out Costs for items 13 or 14.
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of items 13 or 14 to and from the project site.
10. Bid Item No. 16 Loader / Backhoe
 - a. Use of Loader / Backhoe shall be measured and paid per hour based on the rate set on the bid form.
11. Bid Item No. 17 Hoe Pack for bid item No. 16.
 - a. Use of Hoe Pack for bid item No. 16 shall be measured and paid per hour based on the rate set on the bid form.
12. Bid Item No. 18 Hydraulic Breaker for bid item No. 16
 - a. Use of Hydraulic Breaker for bid item No. 16 shall be measured and paid per hour based on the rate set on the bid form.

DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

13. Bid Item No. 19 In/Out Costs for bid items 16
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of bid item No. 16 to and from the project site. Bid items 17 and 18 shall be included in the cost of In/Out Costs of bid item No. 16.
14. Bid Items No. 20 thru 22 Single Drum Vibratory Rollers
 - a. Use of Single Drum Vibratory Rollers shall be measured and paid per hour based on the rate set on the bid form.
15. Bid Item 23 In/Out Costs for items 20, 21 or 22.
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of bid items 20, 21 or 22 to and from the project site.
16. Bid Item No. 24 - Compressor with breaker or hammer
 - a. Use of Compressor with breaker or hammer shall be measured and paid per hour based on the rate set on the bid form.
17. Bid Item 25 In/Out Costs for item 24.
 - a. In/Out Costs shall be measured and paid for using the unit price established on the bid form for preparatory work and operations performed by the Contractor for the movement of item 24 to and from the project site.
18. Bid Item No. 26 - Street Sweeper
 - a. Use of Street Sweeper shall be measured and paid per hour based on the rate set on the bid form.
19. Bid Item No. 27 - Dump Truck, Solo (10 CY)
 - a. Use of Dump Truck, solo (10CY) shall be measured and paid per hour based on the rate set on the bid form.
20. Bid Item No. 28 - Dump Truck and Trailer
 - a. Use of Dump Truck and Trailer shall be measured and paid per hour based on the rate set on the bid form.
21. Bid Item No. 29 - Vac Truck
 - a. Use of Vac Truck shall be measured and paid per hour based on the rate set on the bid form.
22. Bid Item No. 30 - Water Truck
 - a. Use of Water Truck shall be measured and paid per hour based on the rate set on the bid form.
 - b. The Contractor shall make arrangements with the City of Tacoma or other sources to supply and is responsible for the cost of construction water for the duration of this Contract.

B. Measurement and Payment for HAZWOPER Trained Labor

1. Bid Item No. 31 thru 34. Trained Labor, other than that included above.
 - a. This item is the total cost to the Port for each hour of labor, including fringe benefits, small tool allowance, travel, overhead and profit, etc., regardless of classification, except that which is included in the operator costs included with the equipment rates.

C. Measurement and Payment for Materials

1. Bid Items No. 35 thru 37 Materials
 - a. The rock materials will be measured and paid for by the Ton, as verified by certified scale weight tickets. Cost of hauling and spreading of material will be paid for under a separate bid item.
2. Bid Item No. 38 Materials
 - a. Adjust manhole, catch basin, or hatch shall include all materials, labor, and equipment to adjust existing structures to finished grades and modifying ladders or rungs for access. Adjusting manholes, catch basins, or hatches will be measured and paid for per Each.
3. Bid Item No. 39 Materials
 - a. Geosynthetic material and/or geogrid materials will be measured and paid for by the Square Yard in place.
4. Bid Items No. 40 thru 42 Materials
 - a. The unit price will be measured and paid for by the Square Yard amount of the bid form.
 - b. The measurement and payment of the materials shall include the cost of transport, installation, maintenance and removal of BMPs for these materials for the duration of the project. These materials will become the property of the Port and the Port retains the right to retain these materials at the conclusion of the project. Costs for disposal of these materials will be paid for under a separate bid item.
 - d. Surface stabilization shall include stabilizing exposed soil surfaces with seed, sod, mulch, or other vegetation to control erosion and sediment control.
5. Bid Items No. 43 thru 47 Materials
 - a. The unit price will be measured and paid for per Each for the BMP's installed.
 - b. The measurement and payment of the materials shall include the cost of transport, installation, maintenance, and removal of BMPs for these materials for the duration of the project. These materials will become the property of the Port and the Port retains the right to retain these materials at the conclusion of the project. Costs for disposal of these materials will be paid for under a separate bid item.
6. Bid Item No. 48 Materials
 - a. The unit price will be measured and paid for per Linear Foot for the BMP installed.
 - b. The measurement and payment of the materials shall include the cost of transport, installation, maintenance, and removal of this BMP for the duration of the project. These materials will become the property of the Port and the Port retains the right to retain these materials at the conclusion of the project. Costs for disposal of these materials will be paid for under a separate bid item.

D. Measurement and Payment for Hauling and Disposal as Complete Service

1. Bid Items No. 49 thru 51
 - a. The hauling and disposal of materials to a waste disposal site will be measured and paid for by the ton, as verified by certified scale weight tickets.
2. Bid Items No. 52 thru 54
 - a. The hauling and disposal of materials to Port site will be measured and paid for by the cubic yard, based on neat line removed of material, type and destination as bid. Spreading of material will be paid for under a separate bid item.

E. Measurement and Payment for Urgent Need Snow Removal

1. Bid Items No. 55 thru 58 Urgent Need Snow Removal (based on 4 hr minimum per day)
2. Bid Item No. 55 - Use of 4 x 4 Truck with plow and driver
 - a. Use of a 4 x 4 truck with plow and driver for snow removal shall be measured and paid for per hour based on the rate set on the bid form with a 4 hour minimum per day. In/Out costs are included in the unit price of this bid item.
3. Bid Item No. 56 - Use of Dump Truck (10 CY) with plow and driver
 - a. Use of a Dump Truck (10 CY) with plow and driver for snow removal shall be measured and paid for per hour based on the rate set on the bid form with a 4 hour minimum per day. In/Out costs are included in the unit price of this bid item.
4. Bid Item No. 57 - Use of front end loader with driver
 - a. Use of front end loader and driver for snow removal shall be measured and paid for per hour based on the rate set on the bid form with a 4 hour minimum per day. In/Out costs are included in the unit price of this bid item.
5. Bid Item No. 58 - Use of grader with driver
 - a. Use of grader and driver for snow removal shall be measured and paid for per hour based on the rate set on the bid form with a 4 hour minimum per day. In/Out costs are included in the unit price of this bid item.

F. Measurement and Payment for Survey

1. Bid Item No. 59 Survey (Including field and office work).
 - a. Survey shall include necessary time to establish benchmarks and controls, perform field surveying, including but not limited to topographic survey, utilities, buildings, ramps, inlets, manholes, vaults, staking excavation limits, fill limits, grades, slopes, berms, and stockpiles. Survey shall include all office time to perform calculations, develop digital terrain models of existing and finished conditions and determine earthwork volumes. Survey work shall also include developing basemaps according to Port standards and providing basemaps, digital terrain models and as-built drawings to the Port. Survey work shall also include filing record documents with the City as necessary and/or as identified by Port personnel for individual Task Orders. This work shall be measured and paid for per hour based on the rate set on the bid form. In/Out costs are included in the unit price of this bid item.

G. Measurement and Payment for Stormwater Pollution Prevention Plan (SWPPP)

1. Bid Item No. 60 Stormwater Pollution Prevention Plan.
 - a. The Contractor shall develop and update a site specific stormwater pollution prevention plan for each Task Order. The plan shall address work specific to each Task Order using current City and Washington State Department of Ecology Best Management Practices. This work shall be measured and paid for per Each based on the rate set on the bid form.

H. Measurement and Payment for Pavement Patching

1. Bid Item No. 61 HMA $\frac{1}{2}$ " Class B (PG 64-22).
 - a. This item includes all materials, equipment, and labor to haul, place, and compact asphalt pavement for pavement patches in locations designated by the Engineer. Hot mix asphalt concrete pavement HMA $\frac{1}{2}$ " Class B (PG 64-22) shall be measured and paid per ton. In/Out costs are included in the unit pride bid for this item.
2. Bid Item No. 62 Portland Concrete Cement 24 Hour Pavement Patch.
 - a. This item includes all materials, equipment, and labor to haul, place, finish and cure Portland cement concrete pavement patches in locations designated by the Engineer. Portland cement concrete 24 hour pavement patched shall be measured and paid per CY. In/Out costs are included in the unit pride bid for this item.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General provisions of the Contract, including General Conditions, Supplementary Conditions and Division 0 and 1 Specifications sections shall apply to all sections of the Contract Documents including specifications, addenda or other changes of documents issued for bidding/construction.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.

1.03 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment and methods of construction from those required by the Contract Documents and proposed by Contractor.
- B. The contract documents include performance specifications for products and equipment which meet project requirements. In those cases where a representative item or manufacturer is named in the specification it is provided for the sole purpose of identifying a product meeting the required functional performance. Where the words "or equal" are used a substitution request as further described is not required.
- C. Where non-competitive or sole source products or manufacturers are explicitly specified with the words "or approved equal", or "Engineer approved equal", or "as approved by the Engineer" are used, they shall be taken to mean "or approved equal". In these cases a substitution request as further described in this section, is required.

1.04 SUBMITTALS

- A. Post-Award Substitution Requests: Submit a substitution request as defined in 01 33 00 – Submittal Procedures. All substitution requests must be submitted by the Contractor and not a subcontractor or supplier.
 1. Substitution Request Form: Use a copy of form located in Section 00 63 25.
 2. Documentation: Show compliance with requirements for substitutions with the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include, but are not limited to, attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified. .
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.

- g. List of similar installations for completed projects with project names, and addresses. Also provide names and addresses of the AE and Owners.
- h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
- i. Research reports evidencing compliance with building code in effect for project
- j. Comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
- k. Cost information, including a proposal of change, if any, in the Contract Sum.
- l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
- m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within 7 calendar days of receipt of a request for substitution. Engineer will notify Contractor through Port of acceptance or rejection of proposed substitution within 15 calendar days of receipt of request, or 7 calendar days of receipt of additional information or documentation, whichever is later.

- a. Forms of Acceptance: Change Order or Minor Change in Work.
- b. Use product originally specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

B. Substitutions will not be considered when:

- 1. Indicated or implied on shop drawings or product data submittals without formal request submitted in accordance with this Section.
- 2. Submittal for substitution request has not been reviewed and approved by Contractor.
- 3. Acceptance will require substantial revision of Contract Documents or other items of the Work.
- 4. Submittal for substitution request does not include point-by-point comparison of proposed substitution with specified product.

1.05 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.01 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than _____ days prior to date required for preparation and review of related submittals.

DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01 25 00 - SUBSTITUTION PROCEDURES DURING BIDDING

1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution will not adversely affect Contractor's construction schedule.
 - c. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - d. Requested substitution is compatible with other portions of the Work
 - e. Requested substitution has been coordinated with other portions of the Work
 - f. Requested substitution provides specified warranty.
 - g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Engineer will consider Contractor's requests for substitution if received within _____ days after the Notice of Award.
 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution offers Port a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities. Port must assume. Port's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Port, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Requested substitution will not adversely affect Contractor's construction schedule.
 - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - f. Requested substitution is compatible with other portions of the Work.
 - g. Requested substitution has been coordinated with other portions of the Work.
 - h. Requested substitution provides specified warranty.
 - i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.03 SUBMITTALS

A. The Contractor shall submit the following documentation to the Port:

1. List of Labor Rates

a. For the Contractor and each subcontractor, a list of labor rates for each trade applicable to the scope of work to be performed. These submitted rates shall be broken down to include the base wage, fringes, FICA, SUTA, FUTA, industrial insurance and medical aid premiums as stated in the General Conditions. The rates shall not contain any travel time, safety, loss efficiency factors, overhead or profit. Rates shall be submitted for straight time, overtime and double time in a form acceptable to the Engineer. Contractor shall provide proof of all labor rate costs as required by the Engineer including the submission of a copy of the most current Workers Compensation Rate Notice from Labor & Industries and a copy of the Unemployment Insurance Tax Rate notice from the Employment security department.

1) If labor rates change during the course of the project or additional labor rates become required to complete the work, the Contractor shall submit new rates for approval.

2. List of Equipment.

a. Submit for the Contractor and each subcontractor, a list of equipment and rates applicable to the scope of work to be performed. The equipment rates shall conform to the rates shown on Equipment Watch. A separate page from equipment watch detailing the hourly rate shall be submitted as backup documentation for each piece of equipment.

1) If the list of equipment and/or equipment rates changes during the course of the project or additional equipment becomes required to complete the work, the Contractor shall submit a new list and rates for approval.

3. No applications for payment or change orders will be processed for the Contractor until labor and equipment rates have been submitted and approved.

1.04 METHOD TO CALCULATE ADJUSTMENTS TO CONTRACT PRICE

A. One of the following methods shall be used:

1. Unit Price Method;
2. Firm Fixed Price Method (Lump Sum); or,
3. Time and Materials Method (Force Account).

B. The Port preferred methods are firm fixed price or unit prices.

1.05 MINOR CHANGES IN THE WORK

- A. Engineer will issue a written directive authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.06 PROPOSAL REQUESTS

- A. Port-Initiated Proposal Requests: The Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Engineer are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Contractor shall submit a written proposal within the time specified in the General Conditions. The proposal shall represent the Contractor's offer to perform the requested work, and the pricing set forth within the proposal shall represent full, complete, and final compensation for the proposed change and any impacts to any other Contract Work, including any adjustments in the Contract Time.
 - a. Include a breakdown of the changed work in sufficient detail that permits the Engineer to substantiate the costs.
 - 1) Generally, the cost breakdown should be divided into the time and materials categories listed in the General Conditions under Article 8.02B for either Lump Sum Proposals or Force Account Proposals.
 - 2) For Unit Price Proposals, include the quantity and description of all work involved in the unit pricing being proposed, along with a not to exceed total cost.
 - b. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - B. Contractor-Initiated Proposals: If latent or differing site conditions require modifications to the Contract, the Contractor may initiate a claim by submitting a request for a change to the Engineer.
 - 1. Notify the Engineer immediately upon finding differing conditions prior to disturbing the site.
 - 2. Provide follow-up written notification and differing site conditions proposal within the time frames set forth in the General Conditions.
 - 3. Provide the differing site condition change proposal in the same or similar manner as described above under 1.04.A.
 - 4. Comply with requirements in Section 01 25 00 Substitution Procedures During Construction if the proposed change requires substitution of one product or system for product or system specified.
 - 5. Proposal Request Form: Use form acceptable to Engineer.

1.07 PROCEEDING WITH CHANGED WORK

- A. The Engineer may issue a directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order per the General Conditions, Article 8.01.E.

DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01 26 00 - CHANGE MANAGEMENT PROCEDURES

1. The directive will contain a description of change in the Work and a not-to exceed amount. It will designate the method to be followed to determine the change in the Contract Sum or the Contract Time.

1.08 CHANGE ORDER PROCEDURES

A. Issuance of Change Order

1. On approval of the Contractor's proposal, and following successful negotiations, the Engineer will issue a Change Order for signature by the Contractor and execution by the Engineer.
 - a. The Contractor shall sign and return the Change Order to the Engineer within **four (4) days** following receipt of the Change Order from the Engineer. If the Contractor fails to return the signed Change Order within the allotted time, the Engineer may issue a Unilateral Change Directive.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

- A. The purpose of this section is to provide the framework for communication between the Port and the Contractor by defining the types and timing of administrative tasks including meetings and other items related to communications.

1.02 NOTICE TO PROCEED

- A. Contract execution will be made per the requirements of the Contract Documents. Once the contract has been executed and all pre-work submittals have been received, the Engineer will issue a Notice to Proceed (NTP).
 1. In certain instances, the Engineer may issue to the Contractor a Limited NTP for specified elements of the work described in these Contract Documents.
- B. The Contractor shall submit all pre-work submittals within ____ days of contract execution.
 1. A list of all pre-work submittals required for NTP is attached to this section.
 2. No contract time extension shall be granted for any delays in issuance of the NTP by the Engineer due to the Contractor's failure to provide acceptable submittals required by the Contract Documents.

1.03 SUBMITTALS

- A. List of Contractor and Subcontractor Personnel
 1. Submit list as required in section 00 73 63 – Security Requirements

1.04 COORDINATION

- A. The Contractor shall coordinate all its activities through the Engineer.
- B. The Contractor shall coordinate construction operations as required to execute the Work efficiently, to obtain the best results where installation of one part of the Work depends on other portions.

1.05 PROJECT MEETINGS

- A. Pre-Construction Meeting
 1. After execution of the contract but prior to commencement of any work at the site, a mandatory one time meeting will be scheduled by the Engineer to discuss and develop a mutual understanding relative to the administration of the safety program, preparation of the schedule of values, change orders, RFI's, submittals, scheduling prosecution of the work. Major subcontractors who will engage in the work shall attend.
 2. Suggested Agenda: The agenda will include items of significance to the project. A sample agenda is attached to this section.
 3. Location of the Pre-Construction Meeting will be held at the Port of Tacoma Administration Building located at One Sicum Plaza.
- B. Weekly Progress Meetings – Progress meetings include the Contractor, Engineer, consultants and others affected by decisions made.
 1. The Engineer will arrange meetings, prepare standard agenda with copies for participants, preside at meetings, record minutes and distribute copies within ten working days to the Contractor, meeting participants, and others affected by decisions made.

- a. The Engineer will approve submitted meeting minutes in writing within 10 working days.
2. Attendance is required for the Contractor's job superintendent, major subcontractors and suppliers, Engineer, and representatives of the Port as appropriate to the agenda topics for each meeting.
3. Standard Agenda
 - a. Review minutes of previous meeting.
 - b. Review of work progress.
 - c. Field observations, problems, and decisions.
 - d. Identification of problems that impede planned progress.
 - e. Maintenance of Progress Schedule (3 weeks ahead; 1 week back).
 - f. Corrective measures to regain projected schedules.
 - g. Planned progress during succeeding work period.
 - h. Coordination of projected progress.
 - i. Maintenance of quality and work standards.
 - j. Effect of proposed changes on progress schedule and coordination.
 - k. Demonstration that the project record drawings are up-to-date.
 - l. Other business relating to the work.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 RELATED WORK DESCRIBED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions apply to this work as if specified in this section. Work related to this section is described throughout these Specifications
- B. Individual submittals required in accordance with the pertinent sections of these specifications. Other submittals may be required during the course of the project and are considered part of the normal work to be completed under the Contract.

1.02 SUBMITTAL LOG

- A. Contractor shall, within _____ prepare and submit for Engineer approval a detailed log of all the submittals required under this Contract, along with any other submittals identified by the Port or Contractor. The log shall include, but not be limited to, schedules, required construction work plans, equipment and material cut sheets, shop drawings, project record documents, test results, survey records, record drawings, results of QC testing, and all other items for which a submittal is required. The submittal log shall be organized by CSI Specification Division, and Section number and include the following information:
 1. Submittal Number
 2. Item identification.
 3. Scheduled submittal date, date returned, date approved.
 4. Date submittal or material is needed.
 5. After the submittal log is reviewed and approved by the Engineer, it shall become the basis for the submittal of all items by Contractor.

1.03 COMPLIANCE

- A. Failure to comply with these requirements shall be deemed as the Contractor's agreement to furnish the exact materials specified or materials selected by the Engineer based on these specifications.

1.04 SHOP DRAWINGS AND MANUFACTURERS' LITERATURE

- A. The Port will not accept shop drawings that prohibit the Port from making copies for its own use.
- B. Shop drawings shall be prepared accurately and to a scale sufficiently large to indicate all pertinent features of the products and the method of fabrication, connection, erection, or assembly with respect to the work.
- C. All drawings submitted to the Engineer for approval shall be drawn to scale as ANSI D
- D. Required electronic formats for these drawings are as follows:
 1. AutoCad DWG
 2. PDF - Formatted to print to half-scale using 11x17 paper.
- E. Catalog cuts or brochures shall show the type, size, ratings, style, color, manufacturer, and catalog number of each item and be complete enough to provide for positive and rapid identification in the field. General catalogs or partial lists will not be accepted. Manufacturers' original electronic files are required for submitting.

1.05 SUBMITTAL REVIEW

- A. After review of each of Contractor's submittals, the submittal will be returned to Contractor with a form indicating one or more of the following:
 1. No Exceptions Taken. Means, accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. But it does not constitute approval or deletion of specified or required items not shown in the partial submittal.
 2. Make Corrections Noted. Same as Item 1, except that minor corrections as noted shall be made by Contractor.
 3. Reviewed – Submittal has been reviewed by the port. Does not constitute approval and The Contractor is responsible for requirements in submittal.
 4. Review as Noted – Submittal has to be reviewed by the Port with comments as noted.
 5. Revise and Resubmit. Means, rejected because of major inconsistencies or errors. Resolve or correct before next submittal.
 6. Submitted material does not conform to the Contract Documents in a major respect (e.g., wrong material, size, capacity, model, etc.).
- B. Submittals marked "No Exceptions Taken", "Make Corrections Noted" or "Reviewed as Noted" authorizes Contractor to proceed with construction covered by those data sheets or shop drawings with corrections, if any, incorporated.
- C. When submittals or prints of shop drawings have been marked "Revise and Resubmit" or "Rejected-", Contractor shall make the necessary corrections and submit required copies. Every revision shall be shown by number, date, and subject in a revision block, and each revised shop drawing shall have its latest revision numbers and items clearly indicated by clouding around the revised areas on the shop drawing.
- D. Submittals authorized by the Engineer do not in any case supersede the Contract Documents. The approval by the Engineer shall not relieve the Contractor from responsibility to conform to the Drawings or Specifications, or correct details when in error, or ensure the proper fit of parts when installed. A favorable review by the Port of shop drawings, method of work, or information regarding material and equipment Contractor proposes to furnish shall not relieve Contractor of its responsibility for errors therein and shall not be regarded as assumption of risk or liability by the Port or its officers, employees, or representatives. Contractor shall have no claim under the Contract on account of failure or partial failure, or inefficiency or insufficiency of any plan or method of work, or material and equipment so accepted. Favorable review means that the Port has no objection to Contractor using, upon its own full responsibility, the plan or method of work proposed, or furnishing the material and equipment proposed.
- E. It is considered reasonable that the Contractor's submittals shall be complete and acceptable by at least the second submission of each submittal. The Port reserves the right to deduct monies from payments due Contractor to cover additional costs for review beyond the second submission.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 PREPARATION OF SUBMITTALS

- A. The Contractor shall use the Port supplied transmittal form for all submittals and email submittals in a clear PDF document to the Engineer at jprince@portoftacoma.com

- B. A separate submittal shall be prepared for each product or procedure and shall be further identified by referencing the Specification Section and paragraph number and each submittal shall be numbered consecutively.
- C. Product submittals that cannot be accomplished electronically shall be accompanied by a printed version of the transmittal. These submittals will be hand delivered to the Port offices at One Sitcum Plaza, Attention: Engineering Department - TBD by Task Order.
- D. Shop and detail drawings shall be submitted in related packages. All equipment or material details which are interdependent or are related in any way must be submitted indicating the complete installation. Submittals shall not be altered once marked "No Exceptions Taken" Revisions shall be clearly marked and dated. Major revisions must be submitted for approval.
- E. The Contractor shall thoroughly review all shop and detail drawings, prior to submittal, to assure coordination with other parts of the work.
- F. Components or materials which require shop drawings and which arrive at the job site prior to approval of shop drawings shall be considered as not being made for this project and shall be subject to rejection and removal from the premises.
- G. All submittal packages including (but not limited to) product data sheets, mix designs, shop drawings and other required information for submittal must be submitted, reviewed and approved before the relevant scheduled task may commence. It is the responsibility of the Contractor to provide the submittal information which may drive a task on the construction schedule to submit items well enough in advance as to provide adequate time for review and comment from the Engineer without adversely impacting the construction schedule.

3.02 MAINTENANCE OF SUBMITTAL LOG

- A. Prepare and submit for Port review a detailed submittal log conforming to the requirements of paragraph 1.02 of this section. When approved by the Engineer use the submittal log to track the transmittal of submittals to the Engineer, the receipt of submittal comments from the Engineer, and all subsequent action with respect to each submittal. Provide an updated copy of the submittal log to the Engineer during each weekly progress meeting, unless otherwise approved by the Engineer.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The work includes the requirements for health and safety provisions necessary for all work at the site for this project. The work also includes compliance with all laws, regulations and ordinances with respect to safety, noise, dust, fire and police action, civil disobedience, security or traffic.
- B. Some of the work tasks may place workers in the potential position of coming into contact with regulated building materials, waste, or environmental media. Detailed information regarding the known nature and extent of refuse and regulated materials in the project area is included in Section 00 31 26 Existing Hazardous Material Information.
- C. The Contractor shall monitor site conditions for indications of identified and other potentially hazardous, dangerous, and/or regulated materials (suspicious material). Indicators of suspicious material include, but are not limited to, refuse, oily sheen or coloring on soil or water, or oily or chemical odors. If suspicious materials are encountered, the Contractor shall stop all work in that area and notify the Engineer immediately.
- D. This project is a Washington State Department of Ecology (Ecology) Remedial Action, subject to Ecology oversight.
- E. Landfill have the potential to create hazardous conditions if not controlled or recognized. Some of the hazards include:
 - 1. Fires that may start spontaneously from exposed and/or decomposed refuse.
 - 2. Fires and explosions that may occur from the presence of methane gas.
 - 3. Landfill gases and other trace gases may cause an oxygen deficiency in confined spaces such as trenches, vaults, conduits, and structures.
 - 4. Hydrogen sulfide, a highly toxic and flammable gas, and/or other toxic gases may be present.
 - 5. Possible caving of trenches and excavations when working over or in refuse fills.
- F. The Contractor is alerted to the presence of odorous conditions during excavation and stockpiling of materials due to hydrogen sulfide and possibly other odorous gases. Section 00 31 26 Existing Hazardous Material Information describes odorous conditions encountered during site investigations. The Contractor shall take appropriate health and safety measures to assess concentrations of these gases, and mitigate as required. Mitigation measures shall include the use of personal protective equipment, if required.

1.02 SUBMITTALS

- A. Prior to the start of any Work, the Contractor shall provide a site specific Health and Safety Plan (HASP), which meets all the requirements of local, state and federal laws, rules and regulations. The HASP shall address all requirements for general health and safety and shall include but not be limited to:
 - 1. Description of work to be performed and anticipated chemical and/or physical hazards associated with the work.
 - 2. Map of the site(s) illustrating the location of the anticipated hazards and areas of control for those hazards (including containments, exclusion/work zones, and contaminant reduction/decontamination zones).

3. Hazardous material inventory and safety data sheets (SDSs) for all chemicals which will be brought on site.
4. Signage appropriate to warn site personnel and visitors of anticipated site hazards.
5. Documentation that the necessary workers have completed the required Hazardous Waste Operations and Emergency Response (HAZWOPER) training.
6. Engineering controls/equipment to be used to protect against anticipated hazards.
7. Personal protective equipment and clothing including head, foot, skin, eye, and respiratory protection.
8. Procedures which will be used for:
 - a. Lockout/Tagout;
 - b. Fall protection;
 - c. Trenching and shoring;
 - d. Hot work;
 - e. Explosive conditions due to methane;
 - f. Oxygen deficient conditions;
 - g. Asbestos and lead hazards;
 - h. Suspicious materials and/or unidentified materials;
 - i. Confined-space entry (could include dewatering storage tanks, manholes, or other items);
 - j. Confined-space rescue;
 - k. Odorous conditions and toxic gases.
9. Exposure monitoring to be used to evaluate actual hazards compared with anticipated conditions, including but not limited to arsenic exposure assessment.
10. Site housekeeping procedures and personal hygiene practices.
11. Personnel and equipment decontamination plan.
12. Railroad safety procedures.
13. Administrative controls.
14. Emergency plan including locations of and route to nearest hospital.
15. Medical surveillance program for site personnel before, during, and after completion of site work.
16. Recordkeeping including:
 - a. Documentation of appropriate employee training (e.g., Hazardous Waste Operations and Emergency Response [HAZWOPER] 40-hour training for staff involved with excavation and handling of soil)
 - b. Respirator fit testing
 - c. Arsenic exposure assessment results

17. Name and qualification of person preparing the HASP and person designated to implement and enforce the HASP.
18. Name and qualifications for Certified Safety Professional (CSP) or Certified Industrial Hygienist (CIH) and a copy of the CIH's or CSP's certification and resume.
19. Excavation, stockpiling, and truck loading procedures.
20. Lighting and sanitation.
21. Signatory page for site personnel to acknowledge receipt, understanding, and agreement to comply with the HASP.

B. Prior to the start of any Work, the Contractor shall provide a site specific Spill Prevention, Control and Countermeasures (SPCC) Plan, which meets all the requirements of local, state and federal laws, rules and regulations.

C. Contractor may submit the HASP and SPCC Plan as one comprehensive document or may submit the plans as separate documents.

1.03 POTENTIAL CHEMICAL HAZARDS

A. Site Contaminants

1. The Contractor must provide site workers with Hazard Communication standard information for potential site contaminants (in accordance with WAC 296-843). The Contractor shall ensure that all site workers are aware of and understand this information. Additional information shall also be provided by the Contractor, as necessary, to meet the Hazard Communication Standard and HASP requirements as noted in WAC 296-901-14010 and 296-843. Workers shall be instructed on basic methods or techniques to assist in detecting suspicious material.
2. The Project soils, in many areas, contain greater than 20 ppm of inorganic arsenic and the Contractor shall comply with all applicable requirements of Washington Department of Labor and Industries Division of Occupational Safety and Health (DOSH) Arsenic Standard, WAC 296-848 including but not limited to personal exposure monitoring, use of respirators and PPE, and worker training. Refer to WAC 296-848-100 Table 1 to determine applicable sections. Arsenic remnant soils are present throughout the site.

B. Potential Exposures Routes

1. Inhalation: Airborne dusts, fibers, particulates, or vapors may be released during site activities. Inhalation of airborne inorganic arsenic may occur.
2. Skin and Eye Contact: Dusts generated during site work activities may settle on the skin or clothing of site workers. Also, workers may contact potentially regulated sediments, or water, in the normal course of their work. Precautions to prevent skin or eye contact with hazardous materials will be included in the HASP. Arsenic exposure may cause skin irritation.
3. Ingestion: Inadvertent transfer of site contaminants from hands or other objects to the mouth could occur if site workers eat, drink, smoke, chew tobacco, or engage in similar activities in work areas. This could result in ingestion of site contaminants. Precautions to prevent accidental or inadvertent ingestion of hazardous materials will be included in the HASP.

C. Chemical hazards may also result from Contractor operations resulting in inadvertent release of fuel, oil, or other chemicals in a manner that would expose workers.

1.04 POTENTIAL PHYSICAL AND OTHER HAZARDS

- A. The Work of the Contractor is described elsewhere in these specifications. Precautions to prevent all anticipated physical and other hazards, including heavy equipment and vessels, shall be addressed in the HASP.
- B. Specific aspects of construction resulting in physical hazards anticipated for this project include, but are not limited to the following:
 1. Work over or adjacent to water, presenting hazards of falling into water, hypothermia from exposure to the elements, and drowning.
 2. Operation of marine equipment, including winches, dredges, and related equipment, entrapment, ensnarement, and being struck by moving parts hazards
 3. Completion of diver surveys with specific health and safety elements.
 4. Major hazards associated with earthwork impacts from moving construction vehicles and trucks, noise, thermal stress, contact with unguarded machines, excavation hazards (i.e., cave-in, utility, etc.), strains from heavy lifting, and reduced visibility and communications difficulties in work area.
 5. Operation of equipment, including excavators, loaders, and related equipment, presenting hazards of entrapment, ensnarement, and being struck by moving parts.
- C. Other anticipated physical hazards:
 1. Heat stress, such as that potentially caused by impermeable clothing (may reduce the cooling ability of the body due to evaporation reduction).
 2. Cold stress, such as that potentially caused during times when temperatures are low, winds are high, especially when precipitation occurs during these conditions.
 3. Biological hazards, such as mold, insect stings, or bites, poisonous plants (i.e., poison oak, sumac, etc.).
 4. Trips and falls
- D. Firewatch Procedures
 1. A firewatch is implemented to ensure the fire-safety of a building, structure or area in the event of any act (e.g., hot work) or situation instigating an increased risk of fire. The term "firewatch" is used to describe a dedicated person or persons whose sole responsibility is to look for fires within an established area.
 2. A firewatch is required when all hot work is being performed.
 3. The firewatch is to perform the following functions:
 - a. Firewatch personnel are to keep diligent watch for fires in the general area where the work is being performed.
 - b. Firewatch personnel are to be familiar with facilities and procedures for sounding an alarm in the event of a fire.
 - c. Firewatch personnel are to have fire extinguishing equipment readily available and be trained in its use, including practice on test fires.
 - d. Firewatch personnel are to inspect the site prior to hot work activities to ensure that combustibles are removed or covered and that any nearby holes or penetrations in the ground and walls are sealed or covered with fire-safe materials.

- e. Firewatch personnel are to watch for fires in all exposed areas. If a fire is located, firewatch personnel are to sound the evacuation alarm immediately and after that try to extinguish the fire only when obviously within the capacity of the equipment available.
- f. The firewatch is to be maintained for at least 120 minutes after completion of hot work such as cutting, welding, or other open flame operations in order to detect and extinguish smoldering and flaming fires. During this time, the work area and other adjacent areas where sparks or flame may have traveled are to be searched for signs of combustion.

PART 2 - PRODUCTS

2.01 SAFETY SIGNAGE

- A. The Contractor shall provide signage at strategic locations within the project site to alert jobsite workers and visitors of the remediation work, associated hazards, and required precautions.

2.02 PRODUCTS SPECIFIED FOR HEALTH AND SAFETY

- A. Provide the equipment and supplies necessary to support the work as described in the site-specific HASP. Equipment and supplies may include but are not limited to:
 - 1. All chemicals to be used on site;
 - 2. A hazardous materials inventory and SDSs for the chemicals brought on site;
 - 3. Enclosure equipment (for dust and asbestos fiber control);
 - 4. Fencing and barriers;
 - 5. Warning signs and labels;
 - 6. Trenching equipment;
 - 7. Fire extinguishers;
 - 8. Equipment to support hot work;
 - 9. Equipment to support lockout/tagout procedures;
 - 10. Scaffolding and fall protection equipment;
 - 11. Personal protective equipment (hard hats, foot gear, skin, eye, and respiratory protection);
 - 12. Area and personnel exposure monitoring equipment;
 - 13. Demolition equipment and supplies;
 - 14. Decontamination equipment and supplies;
 - 15. First aid equipment;
 - 16. Spill response and spill prevention equipment; and
 - 17. Field documentation logs/supplies

PART 3 - EXECUTION

3.01 WORK AREA PREPARATION

- A. Contractor shall comply with health and safety rules, regulations, ordinances promulgated by the local, state, and federal government, the various construction permits, and other sections of the Contract Documents. Such compliance shall include, but not be specifically limited to: any and all protective devices, equipment and clothing; guards; restraints; locks; latches; switches;

and other safety provisions that may be required or necessitated by state and federal safety regulations. The Contractor shall determine the specific requirements for safety provisions and shall have inspections and reports by the appropriate safety authorities to be conducted to ensure compliance with the intent of the regulations.

- B. Contractor shall inform employees, subcontractors and their employees of the potential danger in working with any potentially regulated materials, equipment, soils and groundwater at the project site.
 1. The Contractor shall not proceed with jobsite activities that might result in exposure of employees to hazardous materials, including arsenic, until the HASP is reviewed by the Engineer.
 2. In addition, the Engineer will submit a copy of the Contractor's HASP to Ecology for review. Ecology and the Engineer will review but not approve HASP.
- C. All Contractor employees expected to work at the jobsite or individuals entering the jobsite shall read the Contractor HASP before they enter the jobsite, and will sign a statement provided by the Contractor that they have read and understand the HASP. A copy of the Contractor's HASP shall be readily available at the site at all times the work is being performed.
- D. The Contractor's HASP shall be amended as needed by the CIH or CSP to include special work practices warranted by jobsite conditions actually encountered. Special practices could include provisions for decontamination of personnel and equipment, and the use of special equipment not covered in the initial plan.
- E. Contractor shall perform whatever work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees of the Engineer, Engineer's Representative, and Contractor) and property during the Contract period. This requirement applies continuously and is not limited to normal working hours.
- F. The Engineer's review of the Contractor's performance does not include an opinion regarding the adequacy of, or approval of, the Contractor's safety supervisor, the site-specific HASP, safety program or safety measures taken in, on, or near the job site.
- G. Accidents causing death, injury, or damage must be reported immediately to the Engineer and the Port Security Department in person or by telephone or messenger. In addition, promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.
- H. If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing within 24 hours after occurrence, to the Engineer, giving full details of the claim.

3.02 SITE SAFETY AND HEALTH OFFICER

- A. Contractor shall provide a person designated as the Site Safety and Health Officer, who is thoroughly trained in rescue procedures, has a minimum current 40-hour HAZWOPER certification (minimum), and trained to use all necessary safety equipment, air monitoring equipment, and gas detectors. The person must be available and/or present at all times while work is being performed, and conduct testing, as necessary.
- B. The Site Safety and Health Officer shall be empowered with the delegated authority to order any person or worker on the project site to follow the safety rules. Failure to observe these rules is sufficient cause for removal of the person or worker(s) from this project.

C. The Site Safety and Health Officer is responsible for determining the extent to which any safety equipment must be utilized, depending on conditions encountered at the site.

3.03 GENERAL SAFETY GUIDELINES FOR HAZARDOUS GASES

A. The generally accepted procedure to protect the worker from the effects of the dangers from hazardous gases is through the use of four safeguard measures:

1. Test the atmosphere: Before entering a trench, underground vault, or any other excavation, the atmosphere shall be tested to detect any adverse environmental conditions with a gas detector instrument. Test instruments shall be properly maintained and calibrated. The test shall be conducted from top to bottom of the excavation or every four (4) feet.
2. Ventilate all confined spaces: Before entry and during the entire time workers are in the confined space. Forced ventilation is the generally accepted procedure.
3. Use appropriate safety equipment: All personnel shall be trained to operate the appropriate safety equipment that are to be utilized during the course of their work. It is the responsibility of the Contractor's Site Safety and Health Officer to ascertain that all safety equipment is being used when appropriate.
4. Provide backup safety personnel: Prior to any personnel entering an excavation or confined space, a separate individual shall be positioned outside the space.

B. Safety Monitoring Instrumentation: The Safety and Health Officer shall have appropriate instruments (detector[s]) to test for oxygen deficiency and for the presence of methane gas, hydrogen sulfide, and/or other known or suspected vapors and gases. The Site Safety and Health Officer shall periodically calibrate the instruments, regularly test the excavation or space areas and other work areas for safe working conditions, and ensure that appropriate safety equipment is available.

3.04 SUPPLEMENTAL SAFETY PROGRAM FOR GASES

A. Supplemental to the Contractor's regular safety program, the Contractor shall develop and institute procedures to inform all workers at the site of the potential for the presence of methane and other landfill gases emanating from the natural decomposition of refuse buried at or near the job site, and the importance of safety precautions to ensure the safety of workers and the public.

B. Recommended Precautions: In addition to conforming to safety rules and regulations of governmental authorities having jurisdiction, the Contractor shall conform to the following minimum precautionary measures:

1. Frequently monitor for all possible hazardous gases, oxygen deficiency and other known or suspected vapors and gases.
2. Prohibit smoking in or near open excavations, exposed refuse, and in the vicinity of underground pipe laying activities. Smoking will be permitted only in those areas designated by the Site Safety and Health Officer.
3. In the event toxic gas is present in sufficient quantities to trigger a gas detection alarm, the Contractor shall immediately evacuate all personnel from the area until determined safe by the Site Safety and Health Officer.
4. Do not use explosives.

5. Do not leave refuse exposed overnight, unless otherwise approved by the Engineer. Any refuse exposed during construction activities shall be covered with at least a 6-inch layer of earth, tarps, or membrane.
6. Do not weld in trenches, enclosed areas, or over refuse unless performed in areas tested and approved by the Site Safety and Health Officer.
7. Construction equipment used in excavation activities and/or refuse removal operations shall be equipped with vertical exhaust and spark arresters.
8. Electric motors utilized in excavation areas and below ground shall be explosion-proof.
9. As construction progresses, all pipe openings and valves shall be closed as soon as installed to prevent the migration of gases through the pipeline system.

C. Suggested Measures: If not already included in the Contractor's standard safety practices, the Contractor shall add the following measures to their safety program:

1. Workers shall be cautioned on the possibility of collapsing excavations during construction operations near and in open excavations particularly in refuse-filled areas. Anyone working near the edge of deep excavations should be secured with a safety belt, harness, or limit line to preclude the possibility of falling into the opening. Refuse filling operations and compaction is quite variable and therefore may not provide the same slope stability as excavations in native soils.
2. Any personnel working near the edge of well excavations or similar construction should wear a harness securely attached to a lanyard. The lanyard shall be made as short as possible and securely fastened to a safe object.
3. Safe and suitable ladders that project 2 feet above the top of the trench shall be provided for all trenches over 4 feet in depth. A minimum of one ladder shall be provided for each 25 feet of open trench, and be so located that workers in the trench need not move more than 25 feet to a ladder.
4. No worker shall be allowed to work alone in an excavation. An individual shall be positioned outside the excavation, but within eyesight of the workers in the excavation, and assist them should an emergency develop.
5. Work upwind of an excavation where possible, unless the excavation is constantly monitored and declared safe.
6. Workers should avoid contact with exposed refuse where possible.
7. No excavation or drilled hole greater than 2 feet deep shall be left unattended or open overnight unless it is securely covered in a manner acceptable to the Engineer.
8. Fire extinguishers with a rating of at least A, B, and C shall be available onsite.
9. Startup and shutdown of equipment shall be avoided in areas of exposed refuse.
10. Personnel in an open excavation or in the presence of landfill gas shall be fully clothed with appropriate personal protection equipment. Workers shall immediately vacate the excavation if gases are detected therein, and shall not be permitted to re-enter the excavation unless satisfactory precautionary measures are implemented.

3.05 SPILL PREVENTION AND CONTROL

- A. The Contractor shall be responsible for prevention, containment and cleanup of spilling petroleum and other chemicals/hazardous materials used in the Contractor's operations. All such prevention, containment and cleanup costs shall be borne by the Contractor.

- B. The Contractor is advised that discharge of oil, fuel, other petroleum, or any chemicals/hazardous materials from equipment or facilities into state waters or onto adjacent land is not permitted under state water quality regulations.
- C. In the event of a discharge of oil, fuel or chemicals/hazardous materials into waters, or onto land with a potential for entry into waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of all spilled material and used cleanup materials.
- D. The Contractor shall, at a minimum, take the following measures regarding spill prevention, containment and cleanup.
 - 1. Fuel hoses, lubrication equipment, hydraulically operated equipment, oil drums and other equipment and facilities shall be inspected regularly for drips, leaks or signs of damage, and shall be maintained and stored properly to prevent spills. Proper security shall be maintained to discourage vandalism.
 - 2. All land-based chemical, oil and products' storage tanks shall be diked, contained and/or located so as to prevent spills from escaping into the water. Dikes and containment area surfaces shall be lined with impervious material to prevent chemicals or oil from seeping through the ground and dikes.
 - 3. All visible floating sheen shall be immediately contained with booms, dikes or other appropriate means and removed from the water prior to discharge into state waters. All visible spills on land shall be immediately contained using dikes, straw bales or other appropriate means and removed using sand, sawdust or other absorbent material, which shall be properly disposed of by the Contractor. Waste materials shall be temporarily stored in drums or other leak-proof containers after cleanup and during transport to disposal. Waste materials shall be disposed offsite in accordance with applicable local, state and federal regulations.
 - 4. In the event of any oil or product discharges into public waters, or onto land with a potential for entry into public waters, the Contractor shall immediately notify the Port Security at their listed 24-hour response number:
 - a. Port Security: 253-383-9472
- E. The Contractor shall maintain the following materials (as a minimum) at each of the project sites:
 - 1. Oil-absorbent booms: 100 feet.
 - 2. Oil-absorbent pads or bulk material, adequate for coverage of 200 square feet of surface area.
 - 3. Oil-skimming system.
 - 4. Oil dry-all, gloves and plastic bags.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section discloses procedures to follow if unknown regulated materials are encountered.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions, and General Requirements, apply to this work as specified in this section. Work related to this Section is described in, but not limited to:

1. Section 01 35 29 – Health, Safety, and Emergency Response Procedures
2. Section 01 35 19 – Export Soil Management
3. Section 01 74 19 – Waste Management and Disposal
4. Section 02 41 00 – Site Demolition
5. Section 02 41 01 – Building Demolition
6. Section 02 61 00 – Removal and Disposal of Regulated Soil
7. Section 02 81 00 – Removal and Disposal of Universal Waste
8. Section 02 82 13 – Asbestos Abatement
9. Section 02 83 13 – Lead Hazard Control Activities

1.03 NOTIFICATION AND SUSPENSION

A. In the event the Contractor detects the presence of potentially regulated materials not previously identified in this specification, the Contractor shall stop work and immediately notify the Port. Following such notification by the Contractor, the Port shall in turn notify the various governmental and regulatory agencies concerned with the presence of regulated materials, if warranted. Depending upon the type of materials identified, the Port may suspend work in the vicinity of the discovery under the provisions of General Conditions.

1. Following completion of any further testing necessary to determine the nature of the materials involved, the Port will determine how the material shall be managed. Although the actual procedures used in resuming the work shall depend upon the nature and extent of the regulated material, the following alternate methods of operation are foreseen as possible:
 - a. Contractor to resume work as before the suspension.
 - b. Contractor to move its operations to another portion of the work until measures to eliminate any hazardous conditions can be developed and approved by the appropriate regulatory agencies.
 - c. The Port to direct the Contractor to dispose or treat the material in an approved manner.
 - d. The Port to terminate or modify the Contract accordingly, for unforeseen conditions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Soils that cannot be reused onsite and are anticipated to be exported to an off-site facility must have a completed soil profile prior to export. Contractor is responsible for collecting the appropriate data that satisfies the requirements of the receiving facility.
- B. Soils excavated within the project area, as shown on the drawings, are anticipated to be free of regulated material; however, should the Contractor identify soil that cannot be reused as part of the project, the Contractor shall notify the Engineer to determine if the soil requires special handling.
 1. Soil with unexpected regulated material, as identified by visual and/or olfactory methods, shall be segregated from other excavated material until such time as appropriate testing and analysis can be completed by the Port. Upon completion of the soil profile, the Engineer will inform the Contractor of any special handling requirements based on the results.
 2. Soil beyond construction excavation limits will not require excavation unless free draining product is observed or other special conditions exist; in which case the Engineer will direct the Contractor in additional excavation. Soils determined to require special handling will be hauled and disposed of at an approved disposal facility.
- C. No soil shall be removed from the site without prior notification to the Engineer. The notification shall include:
 1. An estimate of the number of truck-trips, the haul destination, and the period in which these trips will be made (e.g., 20 truck-trips to the Waste Management Facility over the two-week period beginning on March 1, 2012).

1.02 DEFINITIONS

- A. Olfactory Indications (methods): Of or relating to the sense of smell. Soils containing petroleum and other volatile constituents typically exhibit characteristic odors that can be detected (and sometimes identified) by smell.
- B. Regulated Material: Any chemical, physical, biological, or radiological substance that does not occur naturally in the environment, or that occurs at concentrations higher than natural background levels, and is regulated by agencies as to the disposal/recycling facility(ies) the material can and cannot go (i.e., EPA, Department of Ecology, Tacoma-Pierce County Health Department).
- C. Soil (waste) Profile: A characterization of the chemical and physical properties of soil material designated for off-site disposal, including the presence of pollutants and their concentrations as measured by approved laboratory analytical methods. A profile is required by the receiving permitted disposal or recycling facility.
- D. Special Handling: Refers to hauling and disposal of soils that cannot be reused in place as backfill or as general fill at another (off-site) location due to the presence of pollutants in concentrations above allowable limits. Such soils must be hauled to and managed at a permitted disposal facility.
- E. Type A Regulated Soil: Soil that must be removed from the Project site and has been determined by the Engineer to contain pollutants in concentrations that exceed state or federal dangerous or hazardous designations (respectively), or other special Port-determined criteria. Type A Regulated Soil requires disposal at an approved Subtitle C hazardous waste landfill.

- F. Type B Regulated Soil: Soil that must be removed from the Project site and has been determined by the Engineer to contain pollutants in concentrations that are below dangerous or hazardous levels, but could negatively impact the quality of air, waters of the state, soils or sediments, or pose a threat to the health of humans or other living organisms, depending on where the soil is disposed. Type B Regulated Soil requires disposal at an approved Subtitle D solid waste landfill.
- G. Type C Regulated Soil: Soil that must be removed from the Project site and has been determined by Engineer to contain unknown constituent(s) and/or in unknown concentration(s) and requires further analysis and characterization. Type C Regulated soil will require disposal at an approved Subtitle C hazardous waste landfill or Subtitle D solid waste landfill if additional soil characterization indicates special handling is required.
- H. Type D Soil: Soil determined by the Engineer not to require special handling with regard to this Contract. Classification of material as Type D Soil by the Port is not a certification nor does it release the Contractor of liability or obligation to meet any disposal or storage facility acceptance or testing requirements.
- I. Unexpected Regulated Material: Regulated material unexpectedly found in an excavation or in other locations where there is no prior knowledge, information, or history to indicate possible spills or releases of regulated material.
- J. Visual Indications (methods): A preliminary evaluation of the potential presence of contamination based on visual observation. For example, soils containing petroleum are frequently discolored or stained relative to non-petroleum impacted native soils or clean fill.

1.03 HEALTH AND SAFETY

- A. The Contractor is required to implement all health and safety provisions as required by Specification 01 35 29 – Health, Safety and Emergency Response. These provisions include any special monitoring, personal protective equipment, or work plans to accommodate regulated soil or material special handling. Use of environmental characterization data may not be appropriate for health and safety purposes.

1.04 SUBMITTALS

- A. Prior to excavation of any subsurface materials, the Contractor shall submit a Soils Management Plan to the Engineer. The Soils Management Plan must be approved by the Engineer prior to any excavation of subsurface materials. The Soils Management Plan must include the following:
 1. Identification of all soil disposal facilities anticipated to be used for soils that are determined to be Type A or Type B Regulated Soil.
 2. Identification of all fill sites, disposal/recycling facilities and/or end uses anticipated to be used for soil determined to be Type D Soil in accordance with paragraph 3.02 of this section.
 3. Contingency for delivery and placement of Type C Regulated Soil at an on-site soil stockpile area.
 4. Contingency for managing soil/debris encountered during excavation that may disqualify soil for disposal or recycle at the anticipated facilities.
 5. General description of how equipment operators, safety staff and other applicable on-site personnel will identify and respond to soil containing potentially regulated material.

6. Contractor shall coordinate with the Engineer to facilitate handling of regulated soil in accordance with this specification.
7. Description of all haul routes to be used on the project.

B. A completed soil profile prior to export to an off-site receiving facility.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 EXCAVATION/TESTING

- A. The field-testing for soil to be exported offsite will be performed by the Port and will result in the following classification of material:
 1. Type A Regulated Soil as defined in 1.02(E) of this Section
 2. Type B Regulated Soil as defined in 1.02(F) of this Section
 3. Type C Regulated Soil as defined in 1.02(G) of this Section
 4. Type D Soil as defined in 1.02(H) of this Section
- B. Contractor shall give Port no less than one week notice to sample export soil prior to disposal offsite.
- C. Laboratory turnaround times may require additional time for analytical results; therefore, Contractor should coordinate with Engineer well in advance of anticipated disposal date. Samples that are required to have "rush" analysis performed due to the Contractor's failure to disclose the anticipated disposal date shall have the difference in service fees paid by the Contractor, or the Contractor may delay the disposal until the standard analysis turnaround time is complete, at no additional cost to the Port.

3.02 TRANSPORTATION AND OFF-SITE DISPOSAL OF SOILS

- A. The Contractor shall be responsible for handling, re-handling, loading, transporting, and legal off-site removal of all waste materials and excavated soils not reused onsite.
 1. Contractor shall ensure that transport truck gross weight meets federal and/or state Department of Transportation (DOT) requirements and the requirements of the receiving facility, whichever is more stringent.
 2. Contractor shall take measures to prevent debris from being spilled from trucks or tracked from the site to local streets. Contractor shall sweep streets adjacent to the site as necessary or as directed by the Engineer.
 3. Contractor shall ensure that any vehicle transporting materials offsite are properly labeled and placarded in accordance with federal and state DOT requirements.
- B. Type A Regulated and Type B Regulated Soil shall be hauled to an approved facility by the Contractor for disposal.
- C. Type C Regulated Soil is of unknown origin or special circumstances. Type C Regulated Soil shall be hauled to an on-site segregated stockpile area. The Contractor shall protect the material from weather and other disturbances once stockpiled. The Port will inform the Contractor of the soil profile following additional analysis of the suspect material (as needed), and the soil will be categorized as either Type A Regulated, Type B Regulated or Type D Soil and disposed of accordingly.

- D. Type D Soil that is not reused onsite shall be hauled by the Contractor to a site determined by the Contractor. If the receiving/disposal facility requires additional testing or certification of this soil, Contractor shall complete these requirements, at no additional cost to the Port. The Port will not certify or declare the material suitable for unrestricted use.

3.03 OTHER REQUIREMENTS

- A. Type A, Type B or Type C Regulated Soil may be, upon approval of the Engineer, temporarily stockpiled within the construction area. Contractor shall place an impervious liner beneath the soil and securely cover the stockpile with waterproof covering (e.g., plastic sheeting). Additional measures (e.g., berm, jersey barriers, silt fence, etc.) may be required to minimize soil runoff from the stockpile area. The soil shall be removed prior to completion of Work.
- B. Contractor shall provide the Engineer with all hauling receipts (or copies of receipts) from the disposal facility for all Type A, Type B or Type C Regulated Soil at least weekly.
- C. The Engineer may shut down excavation activities should unexpected regulated material be encountered during excavation.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The Work includes the requirements to provide air and noise control measures until Final Completion of the Work.

1.02 SUBMITTALS

- A. Prior to Notice to Proceed, the Contractor shall submit of a list of equipment to be used on the project and certify in writing that all equipment on the list and any additional equipment, including Contractor's, subcontractors or supplier's equipment, shall meet the requirements of 3.01 below.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 AIR POLLUTION CONTROL

- A. The Contractor shall meet or exceed EPA Tier 2 off-road diesel engine emission standards for off-road equipment \geq 25hp and meet or exceed EPA 1994 on-road diesel engine emission standards for on-road equipment except as follows:
 - 1. Equipment being used in an emergency or public safety capacity
 - B. The Contractor shall not discharge smoke, dust, and other hazardous materials into the atmosphere that violate local, state or federal regulations.
 - C. No vehicles can idle for more than 5 consecutive minutes, except as follows:
 - 1. Idling is required to bring or maintain the equipment to operating temperature;
 - 2. Engine idling is necessary to accomplish work for which the equipment was designed (i.e. operating a crane)
 - 3. Idling vehicles being used in an emergency or public safety capacity.
 - D. The Contractor shall minimize nuisance dust by cleaning, sweeping, vacuum sweeping, sprinkling with water, or other means. Equipment for this operation shall be on the job site or available at all times.

3.02 NOISE CONTROL

- A. The Contractor shall comply with all local controls and noise level rules, regulations and ordinances which apply to work performed pursuant to the Contract.
- B. All internal combustion engines used on the job shall be equipped with a muffler of a type recommended by the manufacturer.

END OF SECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. The Work shall consist of the procedures to be followed in the event that cultural and/or historical resources are inadvertently discovered during the project's activities.
- B. The project is located in an area previously inventoried for cultural and historical resources; however it is possible that additional, previously unidentified archaeological resources and/or skeletal remains could be inadvertently discovered during project activities. In the event that prehistoric, historic-era archaeological materials or skeletal remains are discovered, the appropriate protection measures and protocols described in this section must be followed.
- C. The Port will provide archaeological monitoring by or under the guidance of a professional archaeologist (archaeologist).
 - 1. All ground disturbing activities in native soils must be observed by the archaeologist.

1.02 REFERENCES

- A. The rules, requirements, and regulations that apply to this Work include, but are not necessarily limited to the following:
 - 1. Port of Tacoma "Archaeological Monitoring and Inadvertent Discovery Plan"

1.03 AUTHORITY OF ARCHAEOLOGIST

- A. At any time, when the archaeologist determines that possible cultural resources or skeletal remains might be present, they have the authority to stop work, secure the area of the find and determine a work stoppage zone. This area shall remain protected until further decisions can be made regarding the work site.
- B. The archaeologist will stand in close proximity of the construction equipment to view subsurface deposits as they are exposed and will be in close communication with the equipment operators to ensure adequate opportunity for observation and documentation. The monitor will coordinate the depths of the lifts with the Port and the Contractor.
- C. The archaeologist will be provided the opportunity to screen excavated sediments and matrix samples when this is judged to be useful.
- D. Archaeological monitoring will proceed until it can be determined by the archaeologists that skeletal remains or other cultural resources are not likely to be impacted by construction activities.

PART 2 – PRODUCTS – NOT USED.

PART 3 – EXECUTION

3.01 PROTOCOLS FOR DISCOVERY OF ARCHAEOLOGICAL RESOURCES

- A. In the event that archaeological resources are encountered within the project, the following actions will be taken:
 - 1. All ground disturbing and construction activity at the specific location will stop and the area will be protected via temporary fencing or other appropriate measures.
 - 2. The Contractor's work supervisor will be notified immediately.
 - 3. Contact the PORT's Engineer and Environmental Project Manager immediately.
 - 4. A work stoppage zone, as determined by the Archaeologist and PORT, will be established.

5. The PORT's Environmental Project Manager will contact the appropriate agencies where the discovery is located as well as the Washington State Department of Archaeology and Historic Preservation (DAHP) the Puyallup Tribe (TRIBE) and the U.S. Army Corps of Engineers (Corp).
6. The Work Stoppage Zone will remain protected until further decisions can be made regarding the area.
7. The Contractor will be allowed to continue ground disturbing and other construction activities outside of the established work stoppage zone.

3.02 PROTOCOLS FOR DISCOVERY OF HUMAN REMAINS

- A. In the event of that human remains are encountered within the project, the following actions, consistent with RCWs 68.50.645, 27.44.055 and 68.60.055 will be taken:
 1. All ground disturbing and construction activity at the specific location will stop and the area will be protected via temporary fencing or other appropriate measures. The remains will not be touched, moved or further disturbed.
 2. The Contractor's work supervisor will be notified immediately.
 3. Contact the Port's Engineer and Environmental Project Manager immediately.
 4. The Environmental Project Manager will notify the county medical examiner / coroner and local law enforcement.
 5. A Work Stoppage Zone will be determined and remain protected until further decisions can be made regarding the area.
 6. The Contractor will be allowed to continue ground disturbing and other construction activities outside of the established work stoppage zone.

3.03 PROTOCOLS FOR CONFIDENTIALITY

- A. In the event of that human remains or cultural resources are discovered within the project area, the Port and the Contractor shall keep and maintain all information regarding any discovery confidential.
 1. At no time shall the Contractor contact the media, any third party or otherwise share information regarding the discovery with any member of the public.
 2. If the Contractor is contacted by the media or the public regarding any discovery, they shall refrain from comment, and contact the Port's Environmental Project Manager immediately.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Requirements relating to referenced standards.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue specified in this section, except where a specific date is established by applicable code.
- C. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 QUALITY CONTROL FOR COMPLIANCE:

- A. All work described in the Contract Documents must be fully tested in accordance with applicable sections of these Specifications. The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions and General Requirements, apply to this work as if specified in this Section.
- B. The Contractor shall perform such detailed examination, inspection and quality control and assurance of the Work as to ensure that the Work is progressing and is being completed in strict accordance with the Contract Documents. The Contractor shall plan and lay out all Work in advance of operations so as to coordinate all Work without delay or revision. The Contractor shall be responsible for inspection of portions of the Work already performed to determine that such portions are in proper condition to receive subsequent Work. Under no conditions shall a portion of Work proceed prior to preparatory work having been satisfactorily completed. The Contractor shall ensure that the responsible Subcontractor has carefully examined all preparatory work and has notified the Contractor (who shall promptly notify the Port in writing) of any defects or imperfections in preparatory work that will, in any way, affect completion of the Work.

1.02 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop Drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.04 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties or responsibilities of the parties in Contract, nor those of the Engineer, shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 TESTING SERVICES

- A. Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities.
 - 1. Neither observations by an inspector retained by the Port, the presence or absence of such inspector at the site, nor inspections, tests, or approvals by others, shall relieve the Contractor from any requirement of the Contract Documents, nor is any such inspector authorized to change any term or condition of the Contract Documents.
- B. Necessary materials testing shall be performed by an independent testing laboratory during the execution of the Work and paid for by the Port of Tacoma, unless otherwise specified. Access to the area necessary to perform the testing and/or to secure the material for testing, shall be provided by the Contractor.
- C. Testing does not relieve Contractor to perform work to contract requirements.
- D. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Sum.
- E. Material testing for initial material approval will be performed by an independent, certified laboratory and paid for by the Contractor. These tests must be dated within six (6) months of the submittal date.
- F. Subsequent sampling and testing, required as the work progresses to ensure continual control of materials and compliance with all requirements of the Contract documents, shall be the responsibility of the Port, except as required by other sections of these Specifications.

1.06 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up equipment, test, and adjust and balance equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer subject to approval of Engineer.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary sanitary facilities.
- D. Temporary Controls: Barriers, enclosures, and fencing.
- E. Field offices.

1.02 TEMPORARY UTILITIES

- A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.
- B. Existing facilities _____ be used.
- C. New permanent facilities _____ be used.
- D. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
 - 2. Telephone Land Lines: One line, minimum; one handset per line.
 - 3. Internet Connections: Minimum of one; DSL modem or faster.
 - 4. Email: Account/address reserved for project use.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.
- C. At end of construction, return facilities to same or better condition as originally found.

1.05 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public to allow for Port's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING

- A. Construction: Contractor's option.

DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

B. Provide 6 ft. (1.8 m) high fence around construction site; equip with vehicular gates with locks.

1.07 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from the Port-occupied areas, to prevent penetration of dust and moisture into the Port-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces

1.09 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Provide separate work station similarly equipped and furnished, for use of Engineer and the Port.

D. Locate offices a minimum distance of _____ feet (_____ m) from existing structures.

1.10 TREE AND VEGETATION PROTECTION

A. The Contractor shall carefully protect existing trees and vegetation noted to remain from damage by construction activities.

B. All trees and vegetation noted to remain shall have 4' high, high visibility fence installed at the drip line of the tree or vegetation or as noted and shown on the Drawings.

C. If a tree or vegetation designated for protection is damaged or destroyed in the course of the Work, the Contractor shall replace it with new comparable in species and size as required by the Engineer. Where it is necessary to replace trees or vegetation damaged by construction, the Contractor shall bear all expenses associated with replacement and establishment of the replacement vegetation.

D. The contractor shall provide any necessary irrigation and other care necessary to warrant the replacement vegetation for two growing seasons (April through September) following replacement.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to _____ inspection.

B. Remove underground installations to a minimum depth of _____ feet (_____ m).

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Restore new permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Access roads.
- B. Parking.
- C. Construction parking controls.
- D. Traffic Control
- E. Flares and lights.
- F. Haul routes.
- G. Maintenance.
- H. Removal, repair.
- I. Mud from site vehicles.

PART 2 - PRODUCTS

2.01 SIGNS, SIGNALS, AND DEVICES

- A. Post Mounted and Wall Mounted Traffic Control and Informational Signs, as specified.
- B. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.
- C. Flag Person Equipment: As required by local jurisdictions.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Clear areas, provide surface and storm drainage of road, parking, area premises, and adjacent areas.

3.02 ACCESS TO SITE

- A. Contractor shall conduct all business through the gate assigned by the Engineer.
 - 1. The Contractor may be required to relocate entry and related work areas as required by Port Operations.
- B. Provide unimpeded access for emergency vehicles. Maintain 20 foot (6 m) width driveways with turning space between and around combustible materials.
- C. Provide and maintain access to fire hydrants free of obstructions.

3.03 PARKING

- A. All Contractor's employee cars and work vehicles will be parked on-site as designated by the Engineer.
- B. All Contractor's employee cars and other private vehicles will be parked outside the Port terminals.
- C. When site space is not adequate, provide additional off-site parking.
- D. Supervisory personnel will be issued permits for access to the site.

3.04 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Port operations.
- B. Prevent parking on or adjacent to access roads or in non-designated areas.

3.05 TRAFFIC CONTROL

- A. Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- B. The Contractor shall erect and maintain all construction signs, warning signs, detour signs, flaggers and other traffic control devices necessary for the safe ingress and egress of the Project Site. Traffic control shall include but is not limited to:
 1. Flaggers to direct traffic as required by Tacoma Rail to accommodate the Contractor's work.
 2. The Contractor shall be liable for injuries and damages to persons and property suffered by reason of the Contractor's operations or any negligence in connection therewith.
 3. Flagging, signs, and all other traffic control devices furnished or provided shall conform to established WSDOT and City of Tacoma standards. No work shall be done on or adjacent to the above locations until all necessary signs and traffic control devices are in place. During the course of the work, the Contractor shall be responsible for providing and maintaining adequate traffic control measures for the protection of the Contractor's work and the public.

3.06 FLARES AND LIGHTS

- A. Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.07 HAUL ROUTES

- A. Confine construction traffic to designated haul routes.
- B. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.08 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, Products, mud, snow, and ice.
- B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

3.09 REMOVAL, REPAIR

- A. Repair existing facilities damaged by use, to original condition.
- B. Repair damage caused by installation.

3.10 PUBLIC STREET AND ONSITE ROADWAY CLEANING

- A. The Contractor shall be responsible for preventing dirt and dust escaping from trucks and other vehicles operating on or departing the project site by sweeping, covering dusty loads, washing truck tires and all other reasonable methods.

DIVISION 01 - GENERAL REQUIREMENTS
SECTION 01 55 00 - VEHICULAR ACCESS AND PARKING

- B. When trucks and other equipment are operating on paved public streets and site roadways/paved surfaces, the Contractor will be required to clean said streets, roadways and other paved surfaces at least daily, and at other times if required by the Engineer.
- C. In the event that the above requirements are violated and no action is taken by the Contractor after notification of infraction by the Engineer, the Port reserves the right to have the streets, roadways and other paved surfaces in question cleaned by others and the expense of the operation charged to the Contractor.

END OF SECTION

PART 1 – GENERAL

1.01 WORK DESCRIPTION

- A. The Work shall consist of planning, installing, inspecting, maintaining and removing Temporary Erosion and Sediment Control (TESC) Best Management Practices (BMPs) to prevent pollution of air and water; and to control, respond to, and dispose of eroded sediment and turbid water during the term of the Contract.
- B. These TESC requirements shall apply to all areas associated with the Work, including but not limited to the following:
 1. Work areas
 2. Equipment and material storage areas
 3. Staging areas
 4. Stockpiles
 5. Discharge points within or adjacent to the work areas that are impacted by stormwater runoff from the site.
- C. Acceptance of TESC plans does not constitute an approval of permanent Work or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).
- D. Contractor shall read and conform to requirements set forth in Washington Department of Ecology's (Ecology) Phase I Municipal Stormwater Permit for projects less than one acre.

1.02 REFERENCES

- A. The rules, requirements, and regulations that apply to this Work include, but are not necessarily limited to the following:
 1. Washington Department of Ecology, "Stormwater Management Manual for Western Washington," 2012.
 2. Washington Department of Ecology, "Phase I Municipal Stormwater Permit," 2013.
 3. Washington State Department of Transportation, 2012 Standard Specification M41-10, Division 8-01 Erosion Control and Water Pollution Control.
 4. Pierce County Stormwater and Site Development Manual, 2012.
 5. City of Tacoma, "Surface Water Management Manual," Tacoma Public Works, Environmental Services, February 2012.

1.03 SUBMITTALS

- A. A Construction Stormwater Pollution Prevention Plan (SWPPP) per the requirements in Part 3.02 of this section.
 1. Copies of the updated SWPPP for each task order, including all additional TESC BMPs, as needed.
- B. Safety Data Sheet (SDS) for any dust palliative product.
- C. A copy of all Contractor site inspection logs at a time interval (e.g., weekly, monthly) specified by the Engineer.

1.04 AUTHORITY OF ENGINEER

- A. Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations, as determined by analysis of project conditions; and to direct Contractor to provide immediate permanent or temporary pollution control measures to minimize impacts to adjacent streams or other watercourses, lakes, ponds, and other areas of water impoundment.
- B. In the event that areas adjacent to the work area are suffering degradation due to erosion, sediment deposit, water flows, or other causes, the Engineer may stop construction activities until the Contractor rectifies the situation.

PART 2 – PRODUCTS

2.01 DUST CONTROL

- A. Dust palliative for dust control proposed by the Contractor and approved by the Engineer.

PART 3 – EXECUTION

3.01 GENERAL

- A. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply as determined by the Engineer.
- B. Contractor shall be solely responsible for all BMP modifications and upgrades to comply with the requirements of this Section, at no additional cost to the Port.
- C. Contractor shall be solely responsible for any damages and fines incurred because of Contractor, subcontractor, or supplier actions in implementing the requirements of this Section.
- D. Contractor shall be solely responsible for schedule impacts incurred because of Contractor, subcontractor, or supplier actions in implementing the requirements of this Section.

3.02 TEMPORARY EROSION AND SEDIMENT CONTROL DEVELOPMENT

- A. Contractor shall prepare and submit a site-specific SWPPP prior to initiating ground disturbing activities for each task order.
 1. The SWPPP shall describe construction activities and sequencing, and the proposed Temporary and Permanent Erosion and Sediment Control measures.
 2. The SWPPP shall consist of planning, installing, inspecting, maintaining, and removing TESC BMPs per Ecology's Volume II of the Stormwater Management Manual for Western Washington (2012) or equivalent. The BMPs shown in the Drawings are the minimum required to prevent pollution of air and water, to control peak volumetric flow rates and velocity of stormwater, and to control, respond to, and dispose of eroded sediment and turbid water during the term of the Contract
 3. A SWPPP template is available to the Contractor for this purpose. The template was prepared by the Port to meet part of the National Pollution Discharge Elimination System (NPDES) stormwater permit requirements for the project. Contractor may use the applicable Port template to prepare the project SWPPP or prepare their own SWPPP. If the Contractor elects to prepare their own SWPPP, it must meet or exceed the control measures required by the Ecology (reference Ecology's Stormwater Management Manual for Western Washington, 2012).

4. Because each task order will disturb less than one (1) acre of land, the Port's short form template will meet the project SWPPP requirements. The SWPPP short form template is attached to the end of this Section.
- B. Contractor shall develop task-specific TESC BMPs and incorporate them into the SWPPP. Contractor shall address the following issues as part of developing and implementing the BMPs.
 1. TESC BMPs must meet the requirements in Ecology's Volume II of the Stormwater Management Manual for Western Washington (2012) or equivalent.
 2. TESC notes and details shown in the Drawings and the information in this Section form a basis of the minimum requirements for a TESC Plan. Contractor shall develop a TESC Plan specific to the task order and means and methods prior to commencing construction activities, and update the TESC Plan as needed for the duration of the task order.

3.03 TEMPORARY EROSION AND SEDIMENT CONTROL IMPLEMENTATION

- A. Contractor is responsible for implementing the SWPPP including TESC BMPs.
 1. Contractor shall inspect TESC measures daily and maintain these measures to ensure continued proper functioning for the duration of each task order.
 2. During each task order the Contractor shall, at no additional cost to the Port, upgrade and/or maintain TESC measures as needed, based on Contractor means and methods, work sequencing, and changing site conditions (e.g., changes to impervious surface coverage, proximity of work to storm conveyance systems, storm events, etc.). Contractor shall modify these measures for changing site conditions and update the SWPPP to document all modifications made.
- B. Catch basins must be cleaned when the depth of debris reaches 30% of the sump depth or the debris surface is six (6) inches below the outlet pipe. Contractor shall clean catch basins, manholes, and conveyance lines, prior to the completion of each task order. The cleaning process shall not flush sediment-laden water into any downstream system.
- C. Contractor shall ensure that water or a dust palliative and a dispensing methodology is available as needed for project use. It is the responsibility of the Contractor to develop and adhere to appropriate safety measures pertaining to the palliative use. This also includes ensuring the dispensing subcontractor develops and adheres to the appropriate safety measures, if a dispensing subcontractor is used. Water used for dust suppression shall not be applied at such a rate or in a location that it will generate runoff from the site.
- D. Areas of exposed soils, including embankments, which will not be disturbed for two days during the wet season (October 1–April 30) or seven days during the dry season (May 1–September 30), shall immediately be stabilized by Contractor with an Ecology-approved TESC measure (seeding mulching, plastic covering, etc.).
- E. In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the Work as scheduled or as ordered by the Engineer, such work shall be performed by the Contractor at its own expense.
- F. Contractor shall remove all TESC measures, install permanent site surfacing improvements, permanent BMPs with minimal disturbance and shall clean stormwater facilities impacted prior to Work completion for each task order.

END OF SECTION

CONSTRUCTION SWPPP SHORT FORM

The threshold for using the Port of Tacoma's (Port) short form is a project that proposes to clear or disturb less than one acre of land. Projects falling within this threshold may use this short form instead of preparing a professionally designed Construction Stormwater Pollution Prevention Plan (SWPPP). If project disturbance quantities exceed this threshold, you must prepare of formal Construction SWPPP as part of your submittal package. If your project is within the threshold and includes—or may affect—a critical area, please contact the Port to determine if the SWPPP short form may be used.

CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN SHORT FORM

Project Name:

Address:

Contact/Owner:

Phone:

Erosion Control Supervisor:

Phone:

Cell:

Pager:

Emergency (After hours) Contact:

Phone:

Permit No.:

Parcel No.:

Required Submittals

A Construction SWPPP consists of both a project narrative and a site plan. The project narrative describes existing conditions on the site, the proposed conditions, and how construction site runoff will be managed until final site stabilization is achieved. Any additional relevant information should be included in the project narrative. All Best Management Practices (BMPs) that will be utilized onsite must be included as part of the project narrative and provided (electronically or hard copy) as part of the submittal package. If additional BMPs beyond those included in the Washington Department of Ecology's (Ecology) Western Washington Stormwater Management Manual (Ecology SWMM) or the City of Tacoma's (City) Stormwater Management Manual (City SWMM) are proposed to be used, a narrative and appropriate details describing the BMP (its function, installation method, and maintenance activities) will be required.

The site plan is a drawing which shows the location of the proposed BMPs to control erosion and sedimentation during and after construction activities.

PROJECT NARRATIVE

The Construction SWPPP Short Form narrative must be completed at part of the submittal package. Any information described, as part of the narrative, should also be shown on the site plan.

Note: From October 1 through April 30, clearing, grading, and other soil disturbing activities shall only be permitted by special authorization from the Port.

A. Project Description (Check all that apply)

New Structure Building Addition Grading/Excavation
 Paving Utilities Other:

1. Total project area (square feet)
2. Total proposed impervious area (square feet)
3. Total existing impervious area (square feet)
4. Total proposed area to be disturbed (square feet)
5. Total volume of cut/fill (cubic yards)

Additional Project Information:

B. Existing Site Conditions (Check all that apply)

1. Describe the existing vegetation on the site. (Check all that apply)
 Forest Pasture/field grass Pavement Landscaping Brush
 Trees Other:
2. Describe how surface water (stormwater) drainage flows across/from the site. (Check all that apply)
 Sheet Flow Gutter Catch Basin Ditch/Swale Storm Sewer
 Stream Other:
3. Describe any unusual site condition(s) or other features of note.
 Steep Grades Large depression Underground tanks Springs
 Easements Existing structures Existing utilities Other:

C. Adjacent Areas (Check all that apply)

1. Check any/all adjacent areas that may be affected by site disturbance and fully describe below in item 2:

Streams* Lakes* Wetlands* Steep slopes*
 Residential Areas Roads Ditches, pipes, culverts Other:

** If the site is on or adjacent to a critical area (e.g., waterbody), the Port may require additional information, engineering, and other permits to be submitted with this short form.*

2. Describe how and where surface water enters the site from properties located upstream:

3. Describe the downstream drainage path from the site to the receiving body of water (minimum distance of 0.25 mile [1320 feet]). (E.g., water flows from the site into a curb-line, then to a catch basin at the intersection of X and Y streets. A 10-inch pipe system conveys water another 1000 feet to a wetland.) Include information on the condition of the drainage structures.

D. Soils (Check all that apply)

The intent of this section is to identify when additional soils information may be required for applicants using this short form. There are other site-specific issues that may necessitate a soils investigation or more extensive erosion control practices. The Port will determine these situations on a case-by-case basis as part of their review.

1. Does the project propose infiltration? Infiltration systems require prior Port approval.

Yes No

2. Does the project propose construction on or near steep slopes (15% or greater)?

Yes No

If infiltration is proposed for the site or steep slopes (15% or greater) have been identified, the Port will require soils information as part of project design. The applicant must contact a soil professional or civil engineer that specializes in soil analysis and perform an in-depth soils investigation. If the Yes box is checked for either question, the Port may not permit the use of this short form.

E. Construction Sequencing/Phasing

1. Construction sequence: the standard construction sequence is as follows:
 - Mark clearing/grading limits.
 - Install initial erosion control Best Management Practices (BMPs) (e.g., construction entrance, silt fence, catch basin inserts, etc.).
 - Clear, grade, and fill project site as outlined in the site plan while implementing and maintaining proper temporary erosion and sediment control BMPs simultaneously.
 - Install permanent erosion protection as described in the specifications (e.g., impervious surfaces, landscaping, etc.).
 - Remove temporary erosion control methods as permitted. Do not remove temporary erosion control until permanent erosion protection is fully established.

List any changes from the standard construction sequence outlined above:

2. Construction phasing: if construction is going to occur in separate phases, please describe:

F. Construction Schedule

1. Provide a proposed construction schedule (dates construction starts and ends, and dates for any construction phasing.)

Start Date:

End Date:

Interim Phasing Dates:

Wet Season Construction Activities: Wet season occurs from October 1 to April 30. Please describe construction activities that will occur during this time period.

Note: Additional erosion control methods may be required during periods of increased surface water runoff.

2. Site plan (see Figure 1, page 6)

A site plan, to scale, must be included with this checklist that shows the following items:

- a. Address, Parcel Number, Permit Number, and Street Names
- b. North Arrow
- c. Indicate boundaries of existing vegetation (e.g., tree lines, grassy areas, pasture areas, fields, etc.)
- d. Identify any onsite or adjacent critical areas and associated buffers (e.g., wetlands, steep slopes, streams, etc.).
- e. Identify any FEMA base flood boundaries and Shoreline Management boundaries.
- f. Show existing and proposed contours.
- g. Delineate areas that are to be cleared and/or graded.
- h. Show all cut and fill slopes, indicating top and bottom of slope catch lines.
- i. Show locations where upstream run-on enters the site and locations where runoff leaves the site.
- j. Indicate existing surface water flow direction(s).
- k. Label final grade contour and indicate proposed surface water flow direction and surface water conveyance systems (e.g., pipes, catch basins, ditches, etc.).
- l. Show grades, dimensions, and direction of flow in all (existing and proposed) ditches, swales, culverts, and pipes.
- m. Indicate locations and outlets of any dewatering systems (usually to sediment trap).
- n. Identify and locate all erosion control methods to be used during and after construction.

ONSITE FIELD VERIFICATION OF ACTUAL CONDITIONS IS REQUIRED.

Figure 1. (to be worked out with Engineering Dept.)

GUIDELINES FOR EROSION CONTROL ELEMENTS

This SWPPP must contain the 12 required elements, as required by Ecology. Check off each element as it is addressed in the SWPPP short form and/or on your site plan.

- 1. Mark Clearing Limits
- 2. Establish Construction Access
- 3. Control Flow Rates
- 4. Install Sediment Controls
- 5. Stabilize Soils
- 6. Protect Slopes
- 7. Protect Drain Inlets
- 8. Stabilize Channels and Outlets
- 9. Control Pollutants
- 10. Control Dewatering
- 11. Maintain BMPs
- 12. Manage the Project

The following is a brief description of each of the 12 required elements of a SWPPP. If an element does not apply to the proposed project site, please describe why the element does not apply. Applicable BMPs are listed with each element and in Table 1. Please note that this list is not a comprehensive list of BMPs available for small construction projects, but erosion and sediment control techniques most pertinent to small construction sites are included here. More detailed information on construction BMPs can be found in Ecology's SWMM Volume II and the City's SWMM Volume II (Ecology 2005; City of Tacoma 2012). Please provide hard copies of the BMPs that will be used for the project and include as part of this Construction SWPPP. BMPs that may be used if needed can be noted as being contingent in the event additional erosion control is needed. Describe any additional BMPs that will be utilized onsite and add them to the SWPPP short form.

For phased construction projects, clearly indicate erosion control methods to be used for each phase of construction.

Element #1 – Mark Clearing Limits

All construction projects must clearly mark any clearing limits, sensitive areas and their buffers prior to beginning any land disturbing activities, including clearing and grading. Clearly mark the limits both in the field and on the site plans. Limits shall be marked in such a way that any trees or vegetation that is to remain will not be harmed.

Applicable BMPs include:

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zones
- BMP C103: High Visibility Plastic or Metal Fence
- BMP C104: Stake and Wire Fence

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #2 – Establish Construction Access

All construction projects subject to vehicular traffic shall provide a means of preventing vehicle “tracking” soil from the site onto streets or neighboring properties. Limit vehicle traffic on- and off-site to one route if possible. All access points shall be stabilized with a rock pad construction entrance or other Port-approved BMP. The applicant should consider placing the entrance in the area for future driveway(s), as it may be possible to use the rock as a driveway base material. The entrance(s) must be inspected weekly, at a minimum, to ensure no excess sediment buildup or missing rock.

Applicable BMPs include:

- BMP C105: Stabilized Construction Entrance
- BMP C106: Wheel Wash
- BMP C107: Construction Road/Parking Area Stabilization

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #3 – Control Flow Rates

Protect properties and waterways downstream of the project site from erosion due to increases in volume, velocity, and peak flow of stormwater runoff from the project site.

Permanent infiltration facilities shall not be used for flow control during construction unless specifically approved by the Environmental Department. Sediment traps can provide flow control for small sites by allowing water to pool and allowing sediment to settle out of the water.

Applicable BMPs include:

- BMP C207: Check Dams
- BMP C240: Sediment Trap

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element 4 – Install Sediment Controls

Surface water runoff from disturbed areas must pass through an appropriate sediment removal device prior to leaving a construction site or discharging into a waterbody. Sediment barriers are typically used to slow stormwater sheet flow and allow the sediment to settle out behind the barrier.

Sediment controls must be installed/constructed prior to site grading.

Applicable BMPs include:

- BMP C208: Triangular Silt Dike
- BMP C232: Gravel Filter Berm
- BMP C233: Silt Fence
- BMP C235: Straw Wattles

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #5 – Stabilize Soils

Stabilize exposed and unworked soils by applying BMPs that protect the soils from raindrop impact, flowing water, and wind.

From October 1 through April 30, no soils shall remain exposed or unworked for more than 2 days. From May 1 to September 30, no soils shall remain exposed or unworked for more than 7 days. This applies to all soils whether at final grade or not.

Applicable BMPs include:

- BMP C120: Temporary and Permanent Seeding
- BMP C121: Mulching
- BMP C122: Nets and Blankets
- BMP C123: Plastic Covering
- BMP C140: Dust Control

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #6 – Protect Slopes

Protect slopes by diverting water at the top of the slope. Reduce slope velocities by minimizing the continuous length of the slope.

Applicable BMPs include:

- BMP C200: Interceptor Dike and Swale
- BMP C204: Pipe Slope Drains
- BMP C207: Check Dams

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #7 – Protect Drain Inlets

All operable storm drain inlets must be protected during construction so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment. Install catch basin protection on all catch basins within 500 feet downstream of the project.

Applicable BMPs include:

- BMP C220: Storm Drain Inlet Protection

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #8 – Stabilize Channels and Outlets

Stabilize all temporary onsite conveyance channels. Provide stabilization to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the conveyance system outlets.

Applicable BMPs include:

- BMP C202: Channel Lining
- BMP C209: Outlet Protection

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #9 – Control Pollutants

Handle and dispose of all pollutants, including demolition debris and other solid wastes in a manner that does not cause stormwater contamination. Provide cover and containment for all

chemicals, liquid products (including paint), petroleum products, and other materials. Handle all concrete and concrete waste appropriately.

Applicable BMPs include:

- BMP C150: Materials on Hand
- BMP C151: Concrete Handling
- BMP C152: Sawcutting and Surface Pollution Prevention
- BMP C153: Material Delivery, Storage and Containment

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #10 – Control Dewatering

Clean, non-turbid dewatering water, such as groundwater, can be discharged to the stormwater system provided the dewatering flow does not cause erosion or flooding of receiving waters.

Applicable BMPs include:

- BMP C150: Materials on Hand

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #11 – Maintain BMPs

Maintain and repair temporary erosion and sediment control BMPs as needed. Inspect all BMPs at least weekly and after every storm event.

Remove all temporary erosion and sediment control BMPs within 30 days after final site stabilization or if the BMP is no longer needed. Any sediment trapped during construction activities should be removed or stabilized onsite. No sediment shall be discharged into the stormwater drainage system or any natural conveyance system (e.g., streams).

Applicable BMPs include:

- BMP C160: Certified Erosion and Sediment Control Lead

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Element #12 – Manage the Project

Phase development projects to prevent soil erosion and the transport of sediment from the project site during construction. Coordinate all work prior initial construction with subcontractors and other utilities to ensure no areas are worked prematurely.\

A designated erosion and sediment control person is required for all construction projects. This person is responsible for ensuring that the project's erosion and sediment control BMPs are appropriate for the site and are functioning properly. They are also responsible for updating the SWPPP as necessary as site conditions warrant. They must be available 24 hours a day to ensure compliance.

Applicable BMPs include:

- BMP C160: Certified Erosion and Sediment Control Lead
- BMP C162: Scheduling
- BMP C180: Small Project Construction Stormwater Pollution Prevention

The BMP(s) being proposed to meet this element are:

OR

This element is not required for this project because:

Table 1. Applicable BMPs for the 12 Elements of a SWPPP

Element #1 – Mark Clearing Limits		
BMP C101	Preserving Natural Vegetation	
BMP C102	Buffer Zones	
BMP C103	High Visibility Plastic and Wire Fence	
BMP C104	Stake and Wire Fence	
Element #2 – Establish Construction Entrance		
BMP C105	Stabilized Construction Entrance	
BMP C106	Wheel Wash	
BMP C107	Construction Road/Parking Area Stabilization	
Element #3 – Control Flow Rates		
BMP C207	Check Dams	
BMP C240	Sediment Trap	
Element #4 – Install Sediment Controls		
BMP C208	Triangular Silt Trap	
BMP C232	Gravel Filter Berm	
BMP C233	Silt Fence	
BMP C235	Straw Wattles	
Element #5 – Stabilize Soils		
BMP C120	Temporary and Permanent Seeding	
BMP C121	Mulching	
BMP C122	Nets and Blankets	
BMP C123	Plastic Covering	
BMP C140	Dust Control	
Element #6 – Protect Slopes		
BMP C200	Interceptor Dike and Swale	
BMP C204	Pipe Slope Drains	
BMP C207	Check Dams	
Element #7 – Protect Drain Inlets		
BMP C220	Storm Drain Inlet Protection	
Element #8 – Stabilize Channels and Outlets		
BMP C202	Channel Lining	
BMP C209	Outlet Protection	
Element #9 – Control Pollutants		
BMP C150	Materials on Hand	

Element #9 – Control Pollutants, cont.		
BMP C151	Concrete Handling	
BMP C152	Sawcutting and Surfacing Pollution Prevention	
BMP C153	Materials, Delivery, Storage and Containment	
Element #10 – Control Dewatering		
BMP C150	Materials on Hand	
Element #11 – Maintain BMPs		
BMP C160	Certified Erosion and Sediment Control Lead	
Element #12 – Manage the Project		
BMP C160	Certified Erosion and Sediment Control Lead	
BMP C162	Scheduling	
BMP C180	Small Project Construction Stormwater Pollution Prevention	

REFERENCES

City of Tacoma. 2012. Stormwater Management Manual 2012 Edition. Public Works/Environmental Services, Maintenance Division, Tacoma, Washington.

Washington State Department of Ecology (Ecology). 2005. Stormwater Management Manual for Western Washington. Water Quality Program, Lacey, Washington.

PART 1 - GENERAL

1.01 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 - PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

PART 3 - EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.

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- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED WORK DESCRIBED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions, and other sections of the General Requirements apply to this work as if specified in this section. Work related to this section is described throughout the specifications.
- B. Prior to requesting final inspection, the Contractor shall assure itself that the project is complete in all aspects.

PART 2 - PRODUCTS

2.01 WARRANTY

- A. The Contractor warrants the labor, materials and equipment delivered under the contract to be free from defects in design, material, or workmanship, and against damage caused prior to final inspection. Unless otherwise specified, this warranty extends for a period of one (1) year from the date of Substantial Completion.
- B. The Contractor shall promptly (within 48-hours) repair or replace all defective or damaged items delivered under the contract. The Contractor will haul away all defective or damaged items prior to Substantial Completion.
- C. In the event of equipment failure, during such time or in such a location that immediate repairs are mandatory, the Contractor shall respond promptly, irrespective of time. If the Contractor is not available, the Port will effect repairs. The Contractor shall then reimburse the Port for parts and labor necessary to correct deficiencies as defined within the warranty clause and time.

2.02 OPERATION AND MAINTENANCE MANUALS

- A. The following information (minimum of 3 copies) shall be furnished for all items of equipment on the Project requiring operational and/or maintenance procedures and for any additional items indicated by the Engineer:
 1. Lubrication Information: This shall consist of the manufacturer's recommendations regarding the lubricants to be used and the lubrication schedule to be followed.
 2. Control Diagrams: Diagrams shall show internal and connection wiring and as-built wiring diagrams (where applicable).
 3. Start-up Procedures: These instructions consist of equipment manufacturer's recommendations for installation, adjustment, calibration, and troubleshooting.
 4. Operating Procedures: These instructions consist of the equipment manufacturer's recommended step-by-step procedures for starting, operating, stopping the equipment under specified modes of operation, and for long-term shut-down (moth-balling).
 5. Preventative Maintenance Procedures: These instructions consist of the equipment manufacturer's recommended steps and schedules for maintaining the equipment.
 6. Overhaul Instructions: These instructions consist of the manufacturer's directions for the disassembly, repair and reassembly of the equipment and any safety precautions that must be observed while performing the work.
 7. Parts List: This list consists of the generic title and identification number of each component part of the equipment. This list shall include weights of individual components of each item of equipment weighing over 100 pounds.

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8. Spare Parts List: This list consists of the manufacturer's recommendations of number of parts which should be stored by the Owner and any special storage precautions which may be required.
9. Exploded View: Exploded or cut views of equipment shall be provided if available as a standard item of the manufacturer's information. When exploded or cut views are not available, plan and section views shall be provided with detailed callouts.
10. Specific Information: Where items of information not included in the above list are required, they will be provided as described in the specifications for the equipment.
11. Complete identification, including model and serial numbers.
12. Submittal information, as specified in Section 013300 Submittal Procedures.
13. Warranty Information: This information consists of the name, address, and telephone number of the manufacturer's representative to be contacted for warranty, parts, or service information.
14. Maintenance information summaries shall be prepared on 8-1/2" x 11" paper and digital version (PDF format) on CD-ROM and shall contain the following information compiled from manufacturer's recommendations in the order shown.
 - a. Description or name of item of equipment.
 - b. Asset number (to be provided at a later date)
 - c. Manufacturer.
 - d. Name, address, and telephone number of local manufacturer's representative.
 - e. Serial number (where applicable).
 - f. Equipment nameplate data.
 - g. Recommended maintenance procedures:
 - 1) Description of procedures.
 - 2) Lubricant(s) or other materials required (where applicable), including type of lubricant, lubricant manufacturer, and specific compound.
 - 3) Additional information as required for proper maintenance.
 - h. Maintenance schedule, broken down into:
 - 1) Daily
 - 2) Weekly
 - 3) Monthly
 - 4) Quarterly
 - 5) Semi-Annually
 - 6) Annually
 - i. Recommended spare parts (where applicable).
 - j. Asset Number Information:
 - 1) Provide the following information in Excel spreadsheet format:
 - (a) Asset Number (to be provided at a later date)

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- (b) Description
- (c) Plan Sheet Number
- (d) Parcel Number
- (e) Vendor
- (f) Manufacturer
- (g) Model Year
- (h) Serial Number
- (i) Warranty - Start Date; Finish Date
- (j) Required Preventative Maintenance
- (k) Purchase Price
- (l) Make
- (m) Model
- (n) Fuel Used
- (o) Capacity

2) Asset Number Information will be required for the following items:

- (a) (a)

15. Provide video tapes, DVDs, and audio-visual training materials utilized in the manufacturer's instruction program for the Owner.
16. All such information shall be organized by the Contractor into 3-inch, 3-post, expandable metal binders. The binders shall be sized for material approximately 8-1/2 by 11 inches, and the material in the binders shall not protrude beyond the covers. The binder(s) shall be divided with coversheets for each major item of equipment. The cover sheets shall be typewritten to indicate the name, type of equipment, and location(s) within the Project where installed. A neatly typewritten index shall be provided. The number of copies of such binders to be submitted shall be equal to the total of the Contractor's requirements plus five (5) paper copies and an electronic copy in PDF format to be retained by the Port.
17. All operation and maintenance information shall be comprehensive and detailed and shall contain information adequately covering all normal operation and maintenance procedures.
18. All information shall be specific for the items of equipment installed on the project. Material not directly applicable shall be removed, omitted, or clearly marked as inapplicable.
19. Lubricants shall be described in detail, including type, recommended manufacturer, and manufacturer's specific compound to be used.
20. If manufacturer's standard brochures and manuals are used to describe operating and maintenance procedures, such brochures and manuals shall be modified to reflect only the model or series of equipment used on this project.
21. Extraneous material shall be crossed out neatly or otherwise annotated or eliminated. It shall be the responsibility of the Contractor to ensure that all operation and maintenance materials are obtained. Material submitted must meet the approval of the Engineer prior to project acceptance.

PART 3 - EXECUTION

3.01 FINAL DOCUMENTS

A. Project As-Built Drawings

1. Project As-Built Drawings shall be compiled by the Contractor and submitted to the Engineer for translation to the Record Drawings on a monthly basis.
2. The Project As-Built Drawings will be submitted on paper full-sized (ANSI D) copy.
3. Drawings shall be kept current and shall be done at the time the material and equipment is installed. Annotations to the record documents shall be made with an erasable colored pencil conforming to the following color code:
 - a. Additions - Red
 - b. Deletions - Green
 - c. Comments - Blue
 - d. Dimensions - Graphite
4. Project As-Built Drawings must be complete and accepted by the Engineer before Final Completion is issued.
5. As-Built Drawings shall be in accordance with horizontal and vertical control as shown on the drawings.

B. Final Survey

1. See Section 017123 Field Engineering for Final Survey requirements. The Final Survey shall be completed and submitted to the Engineer within 30 days of Substantial Completion. Final Survey must be complete and accepted by the Engineer before Final Completion is issued.

C. The following Certificates shall be submitted by the Contractor prior to Final Completion:

1. Certificates of Conformance
 - a. Notice of Termination (NOT) Construction Stormwater General Permit: (Confirmation of Termination request acceptance by DOE).

3.02 CLEAN-UP

A. Final clean-up and clean-up during the course of the work is defined in the General Conditions, Article 3.25. Those paragraphs are supplemented to provide the following:

1. Definition: Except as otherwise specifically provided, "clean" (for the purpose of this Article) shall be interpreted as meaning the level of cleanliness generally provided by commercial building maintenance subcontractors using commercial quality building maintenance equipment and materials.
2. General: Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described above.
3. Site: Unless otherwise specifically directed by the Engineer, hose down all paved areas on the site, all public sidewalks and catch basins on adjoining streets. Completely remove all resultant debris.
4. Structure:

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SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

- a. Exterior: Visually inspect all exterior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior or the structure. In the event of stubborn stains not removable with water, the Engineer may require light sandblasting or other cleaning at no additional cost to the Port.
- b. Interior: Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only the specified cleaning materials and equipment.
- c. Clean all glass inside and outside.
- d. Polished Surfaces: To all surfaces requiring the routine application of buffed polish, apply the specified polish as recommended by the manufacturer of the material being polished.

B. Timing: Schedule final cleaning as approved by the Engineer to enable the Port to occupy a completely clean project.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Cutting and patching.

1.02 SUBMITTALS

- A. See Section 01 33 00 - Submittal Procedures
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of the Port or separate Contractor.
- C. Project As-Built Documents: Accurately record actual locations of capped and active utilities.

PART 2 - PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.

- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-conforming work.
- C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Fit work _____ to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with _____ material in accordance with Section _____, to full thickness of the penetrated element.
- I. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.

3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.05 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.06 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED WORK DESCRIBED ELSEWHERE

- A. The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions, and other sections of the General Requirements apply to this work as if specified in this section. Work related to this section is described throughout the specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.01 PROGRESS CLEAN-UP

- A. The Contractor shall clean the project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with all requirements for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials for the type of material to be stored.
 4. Coordinate progress cleaning for joint use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free from waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the work.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section _____.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.02 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
- 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds. in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances.
 - f. Remove debris and surface dust from limited access spaces, including roofs, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Remove labels that are not permanent.
 - i. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - j. Leave Project clean and ready for occupancy.

3.03 REPAIR OF WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surface, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

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SECTION 01 74 13 - CONSTRUCTION CLEANING

1. Touch up and otherwise repair and restore marred or exposed finishes and surface. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
2. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes construction waste management requirements.

1.02 DEFINITIONS

- A. Co-mingled or Off-site Separation: Collecting all material types into a single bin or mixed collection system and separating the waste materials into recyclable material types at an off-site facility.
- B. Construction, Demolition and Land-Clearing (CDL) Waste: Includes all nonhazardous solid wastes resulting from construction, remodeling, alterations, repair, demolition, and land clearing. Includes material that is recycled, reused, salvaged or disposed as garbage. This also includes uncontaminated soils that are designated as geotechnically unsuitable or excess excavation.
- C. Hazardous/Dangerous Waste: As defined by Chapter 70.105.010 Revised Code of Washington and 40 Code of Federal Register 261 and by Washington Administrative Code 173-303.
- D. Proper Disposal: As defined by the jurisdiction receiving the waste.
- E. Recyclable Materials: Products and materials that can be recovered and remanufactured into new products.
- F. Recycling: The process of sorting, cleaning, treating and reconstituting materials for the purpose of using the material in the manufacture of a new product. Can be conducted on-site (as in the grinding of concrete).
- G. Recycling Facility: An operation that is permitted to accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product.
- H. Salvage for Reuse: Existing usable product or material that can be saved and reused in some manner on the project site or other projects off-site.
- I. Salvage for Resale: Existing usable product or material that can be saved and removed intact (as is) from the project site to another site for resale to others without remanufacturing.
- J. Source-Separated Materials: Materials that are sorted at the site into separate containers for the purpose of reuse or recycling.
- K. Sources Separation: Sorting the recovered materials into specific material types with no, or a minimum amount of, contamination on site.
- L. Time-Based Separation: Collecting waste during each phase of construction or deconstruction that results in primarily one major type of recovered material. The material is removed before it becomes mixed with the material from the next phase of construction.
- M. Garbage: Product or material typically considered to be trash or debris that is unable to be salvaged for resale, salvaged and reused, returned, or recycled.

1.03 SUBMITTALS

- A. Waste Management Plan
- B. Waste Management Final Report

1.04 PERFORMANCE GOALS

- A. General: Divert CDL waste to the maximum extent practicable from the landfill by one or a combination of the following activities:
 - 1. Salvage
 - 2. Reuse
 - 3. Source separated CDL recycling
 - 4. Co-mingled CDL recycling
- B. CDL waste materials that can be salvaged, resold, reused or recycled, include, but are not limited to the following:
 - 1. Clean dimensional wood, pallet wood, plywood, OSB, and particleboard
 - 2. Asphalt
 - 3. Concrete and concrete masonry units
 - 4. Ferrous and non-ferrous metals
 - 5. Field office waste paper, aluminum cans, glass, plastic, and cardboard
- C. Hazardous/Dangerous Wastes, contaminated soils and other hazardous materials such as paints, solvents, adhesives, batteries, and fluorescent light bulbs and ballasts shall be disposed of at applicable permitted facilities.

1.05 WASTE MANAGEMENT PLAN

- A. Submit to the Engineer a Waste Management Plan narrative in accordance with these specifications. Provide a Waste Management Plan in a format as approved by the Engineer.
- B. The Waste Management Plan shall include the following:
 - 1. Name of designated Recycling Coordinator
 - 2. A list of waste materials that will be salvaged for resale, salvaged for reuse, recycled, and disposed.
 - 3. Identify waste handling methods to be used, including one or more of the following:
 - a. Method 1 - Contractor or subcontractor(s) hauls recyclable materials to an approved recycling facility.
 - b. Method 2 - Contracting with diversion/recycling hauler to haul recyclable material to an approved recycling or material recovery facility.
 - c. Method 3 - Recyclable material reuse on-site.
 - d. Method 4- Recyclable material salvage for resale.
 - 4. Identification of each recycling or material recovery facility to be utilized, including name, address and types of materials being recycled at each facility
 - 5. Description of the method to be employed in collecting, and handling, waste materials.
 - 6. Description of methods to communicate Waste Management Plan to personnel and subcontractors.

1.06 WASTE MANAGEMENT FINAL REPORT

- A. Provide a Waste Management Final Report, in a format approved by the Engineer. The Waste Management Final Report shall list the following for the project:
 - 1. A record of each waste material type and quantity recycled, reused, salvaged, or disposed from the Project. Include total quantity of waste material removed from the site and hauled to a landfill.
 - 2. Percentage of total waste material generated that was recycled, reused, or salvaged.
- B. Quantities shall be reported by weight (tons) unless otherwise approved by the Engineer.
- C. Submit copies of manifests, weight tickets, recycling/disposal receipts or invoices, which validate the calculations or a signed certification of completeness and accuracy of the final quantities reported.

1.07 QUALITY ASSURANCE

- A. Regulatory Requirements: The Contractor shall maintain compliance with all applicable Federal, State, or Local laws that apply to Construction Waste Management and material salvage, reuse, recycling and disposal.
- B. Disposal Sites, Recyclers and Waste Materials Processors: All facilities utilized for management of any materials covered under this specification must maintain all necessary permits as required by federal, state and local jurisdictions.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 SOURCE-SEPARATED CDL RECYCLING

- A. Provide individual containers for separate types of CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.

3.02 CO-MINGLED CDL RECYCLING

- A. Provide containers for co-mingled CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.

3.03 LANDFILL

- A. Provide containers for CDL waste that is to be disposed of in a landfill clearly labeled as such.

3.04 REMOVAL OF CDL WASTE FROM PROJECT SITE

- A. Transport CDL waste off Port's property and legally dispose of them.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 1. Substantial Completion procedures
 2. Final completion procedures
 3. Warranties
 4. As-Built Drawings

1.03 ACTION SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

1.04 PROJECT SUBMITTALS

- A. Submittal of Project Warranties
- B. Record Drawings
 - 1. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous recordkeeping requirements and submittals in connection with various construction activities.
- C. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.05 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list) indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Port unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 3. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by the Contract Document or Engineer. Label with manufacturer's name and model number where applicable.
 4. Submit test/adjust/balance records.

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SECTION 01 77 00 - CLOSEOUT PROCEDURES

5. Submit changeover information related to Port's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 1. Make final changeover of permanent locks and deliver keys to Port
 2. Complete startup and testing of systems and equipment
 3. Perform preventive maintenance on equipment used prior to Substantial Completion
 4. Instruct Port's personnel in operation, adjustment, and maintenance of products, equipment, and systems
 5. Advise Port of changeover in heat and other utilities
 6. Terminate and remove temporary facilities from Project site
 7. Complete final cleaning requirements
- D. Submit a written request for inspection to determine Substantial Completion a minimum of days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Notice of Substantial Completion after inspection or will notify Contractor of items, either on the Contractor's list or additional items identified by the Engineer, that must be completed or corrected before notice will be issued.
 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for final completion.

1.06 PUNCH LIST (LIST OF INCOMPLETE ITEMS)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of Construction.
 1. Organize list of spaces in sequential order.
 2. Organize items applying to each space by major elements.

1.07 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete and submit the following:
 1. Submittal of all remaining items, including as-built documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, surveys, and similar final record information and all other submittals defined in the Contract Documents.
 2. List of Incomplete Items: Submit copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (Punch List). Copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of ___ days prior to date the work will be complete and ready for final inspection and tests. On

receipt of request, the Engineer will either proceed with inspection or notify contractor of unfulfilled requirements.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.08 FINAL ACCEPTANCE PROCEDURES

A. Submittals Prior to Final Acceptance:

1. Receipt and approval of application for final payment; due within seven (7) days of receipt of Final Completion by the Engineer.
2. Execution of all Change Orders.
3. Contractor's signed waiver and release of claims on the Engineer provided form.
4. Contractor's submittal of list of all suppliers and subcontractors and the total amounts paid to each on the Engineer provided form;
5. Contractor's submittal of a list of all subcontractors and suppliers requiring Affidavits of Wages paid on the Contract and certify that each of companies will submit an approved Affidavit of Wages paid to the Port within 30 days.

6. The Engineer will issue the Final Acceptance Memo upon receipt of the required submittals.

PART 2 - PRODUCTS

2.01 CONTRACTOR'S WARRANTY

- A. The Contractor warrants the labor, materials and equipment delivered under the contract to be free from defects in design, material, or workmanship, and against damage caused prior to final inspection. Unless otherwise specified, this warranty extends for a period of one (1) year from the date of Substantial Completion.
 1. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit the Port's rights under warranty.
 2. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Port or Port tenants during construction.
 3. Submit Warranties to the Engineer as a submittal, as described in 01 33 00 – Submittal Procedures.
 4. Provide additional copies of each warranty in Operation and Maintenance Manuals as described in 01 78 23 – Operation and Maintenance Manuals.
- B. In the event of equipment failure, during such time or in such a location that immediate repairs are mandatory, the Contractor shall respond promptly (within 48 hours), irrespective of day of the week. If the Contractor is not available, the Port will affect repairs. The Contractor shall then reimburse the Port for parts and labor necessary to correct deficiencies as defined within the warranty clause and time.

2.02 AS-BUILT DRAWINGS

- A. Project As-Built Drawings: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

B. Project As-Built Drawings shall be compiled by the Contractor and submitted to the Engineer for translation to the Record Drawings on a monthly basis.

1. The Project As-Built Drawings will be submitted on paper full-sized (ANSI D) copy.
2. Drawings shall be kept current and shall be done at the time the material and equipment is installed. Annotations to the record documents shall be made with an erasable colored pencil conforming to the following color code:
 - a. Additions – Red
 - b. Deletions – Green
 - c. Comments – Blue
 - d. Dimensions – Graphite
3. Project As-Built Drawings must be complete and accepted by the Engineer before Final Completion is issued.
4. As-Built Drawings shall be in accordance with horizontal and vertical control as shown on the drawings.

PART 3 – EXECUTION

3.01 MAINTENANCE OF AS-BUILT DRAWINGS

- A. The Contractor shall maintain at the Project site, in good order for ready reference by the Engineer, one complete copy of the Contract Documents, including Addenda, Change Orders, other documents issued by the Port, a current Progress Schedule, and approved Submittals. The Contractor shall also generate and keep on site all documents and reports required by applicable permits.
- B. The Contractor's As-Built Drawings shall be updated to record all changes made during construction. The location of all existing or new underground piping, valves and utilities, and obstructions located during the Work shall be appropriately marked until the Contractor incorporates the actual field dimensions and coordinates into the as-built drawings. The as-built drawings shall be updated at least weekly and before elements of the Work are covered or hidden from view. After the completion of the Work, the as-built drawings shall be provided to the Port.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Sawcut and remove existing asphalt and concrete pavement and items.
- B. Cold mill asphalt concrete pavement.
- C. Remove miscellaneous items as specified.
- D. Salvage, disposal, storage and handling of removed items.
- E. Restoration of site after demolition.

1.02 DESCRIPTION OF WORK

- A. The extent and location of the Work is indicated on the Task Order and shall be in conformance with these specifications and to the dimensions indicated on the Task Order.

1.03 RELATED SECTIONS

- A. Section 03 30 00 – Cast-in-Place Concrete
- B. Section 31 00 00 – Earthwork

1.04 DEMOLITION

- A. The Contractor assumes full responsibility for the proper disposal of all demolition materials.

1.05 SALVAGE

- A. Remove, as a unit, items designated for salvage. Clean and tag for storage. Protect from damage and deliver to location designated by Engineer.

1.06 QUALITY ASSURANCE

- A. Maintain in satisfactory working condition equipment, tools and machines used in the performance of the work.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Products that are required to accomplish, or to be incorporated into, the work of this section are as selected by the Contractor.

PART 3 - EXECUTION

3.01 GENERAL

- A. Notify the Engineer in writing a minimum of two (2) days prior to beginning work.
- B. Obtain approval from the Engineer and authorities having jurisdiction for work which affects means of ingress and egress from work area including Tacoma Public Works, Tacoma Fire Department and Tacoma Rail. Review with and obtain approval of authorities for temporary construction which affects work area.
- C. The construction area shall be discussed with the Engineer and tenant to determine the allowable footprint of each area of work and any barricading and safety light requirements.
- D. Damaged items that are to remain in place shall be replaced by the Contractor at no additional expense to the Port.
- E. In the event of discrepancy, immediately notify the Engineer. Do not proceed with the Work until all discrepancies have been fully resolved and approved by the Engineer.

3.02 SAWCUTTING

- A. Sawcut all pavements designated for removal.
- B. Perform full depth sawcutting of asphalt and concrete pavement as indicated on the Drawings or where directed by the Engineer.
- C. Neatly cut and remove materials and prepare openings to receive new work.
- D. Make neat vertical sawcuts at the boundaries of the area to be removed and use care in removing the pavement and concrete to protect pavement, concrete, and rail which is to remain in place adjacent to the work area.
- E. Provide vacuum equipment to control dust and debris generated by sawcutting operations. Control and prevent silt-laden runoff generated by sawcutting operations from entering the storm drainage system.
- F. Replace any adjacent damaged materials designated to remain at no additional cost to the Port.
- G. Provide bracing, or screening as needed to prevent damage to adjacent facilities that are to remain in place.
- H. Field verify any sensor loops or other objects embedded in the pavement at the vicinity of proposed sawcutting. Notify the Engineer of any conflicts a minimum of two (2) business days prior to the intended sawcutting work.

3.03 EXISTING PAVEMENT REMOVAL

- A. Existing asphalt and/or concrete pavement shall be removed to the extent shown on the Drawings, or as described in each Task Order, or where directed by the Engineer, with a method approved by the Engineer.
- B. Care must be taken not to disturb or damage any existing underground utilities during removal.

3.04 DISPOSAL

- A. Cleanup: Remove all debris, rubble or litter left at the site from any of the demolition operations and leave a clean site.
- B. The Contractor assumes full responsibility for the proper disposal of all demolition materials under this Contract in a manner that meets the requirements of federal, state and local regulations for protecting the health and safety of employees, the public, and for protecting the environment.

3.05 MILL ASPHALT PAVEMENT

- A. Clean the pavement surface of excessive dirt, clay and other foreign material immediately prior to milling the pavement.
- B. Provide a cold-milling machine which is self-propelled, capable of milling the pavement to a specified depth and smoothness and of establishing grade control; with means of controlling transverse slope and dust produced during the pavement milling operation. The machine shall have the ability to grind material to 1-1/2 inch minus in size and remove the millings or cuttings from the pavement and load them into a truck. The milling machine shall not cause damage to any part of the pavement structure that is to remain in place and material shall be loaded directly into a truck.
- C. Where indicated on the Drawings, mill asphalt concrete pavement by pavement grinder to the depth indicated on the drawings or as directed by the Engineer.
- D. Make sufficient passes so that the designated area is milled to the grades and cross sections indicated. The milling shall proceed with care an in depth increments that will not damage the pavement below the designated finished grade. Repair and replace, as directed, items damaged during milling such as manholes, valve boxes, utility lines, pavement that is torn, cracked, gouged, broken or undercut.
- E. Conform the finished milled surfaces to the lines, grades, and cross sections indicated. The finished milled-pavement surfaces shall vary not more than 1/4 inch from the established plan grade line and elevation. Finished surfaces at a juncture with other pavements shall coincide with the finished surfaces of the abutting pavements. The deviations from the plan grade line and elevation will not be permitted in areas of pavements where closer conformance with planned

grade and elevation is required for the proper functioning of appurtenant structures involved.

- F. Milling shall not be performed when there is a measurable accumulation of snow or ice on the pavement surface.
- G. The Contractor shall be responsible for locating a stockpile site for milled material and hauling material to this site.

3.06 ADJUSTMENT OF EXISTING STRUCTURES

- A. Manholes, valve boxes, catch basins, and other appurtenances within the area to be paved shall be adjusted to grade as shown on the Drawings. Permanent curbs, gutters, and other supports shall be constructed and backfilled prior to placing asphalt or concrete. All asphalt contact surfaces shall be coated with tack coat.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Concrete Formwork
- B. Concrete Reinforcement
- C. Cast-in-Place Concrete Elements

1.02 RELATED SECTIONS

- A. Section 02 41 10 – Site Preparation
- B. Section 31 00 00 – Earthwork

1.03 REFERENCES

- A. General: Comply with the most recent edition of the publications listed below to the extent indicated by references thereto.
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM A82 – Specification for Steel Wire, Plain, for Concrete Reinforcement
 - 2. ASTM A615 - Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
 - 3. ASTM C33 - Specification for Concrete Aggregate
 - 4. ASTM C94 - Specification for Ready-Mixed Concrete
 - 5. ASTM C150 - Specification for Portland Cement
 - 6. ASTM C156 - Test Method for Water Retention by Concrete Curing Materials
 - 7. ASTM C171 - Specification for Sheet Material for Curing Concrete
 - 8. ASTM C260 – Specification for Air Entraining Admixtures for Concrete
 - 9. ASTM C309 - Specification for Liquid Membrane-Forming Compounds for Curing Concrete
 - 10. ASTM C494 - Specification for Chemical Admixtures for Concrete
 - 11. ASTM C920 - Specification for Elastomeric Joint Sealants
 - 12. ASTM D1751 - Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Type)

13. ASTM D6690 - Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
14. ASTM E96 - Test Methods for Water Vapor Transmission of Materials

C. American Concrete Institute (ACI)

1. ACI 301 – Specifications for Structural Concrete
2. ACI 305 – Hot Weather Concreting
3. ACI 306 – Cold Weather Concreting
4. ACI 308 - Standard Practice for Curing Concrete
5. ACI 315 - Details and Detailing of Concrete Reinforcement
6. ACI 318 - Building Code Requirements for Reinforced Concrete

D. Washington State Department of Transportation (WSDOT)

1. Standard Specifications for Road, Bridge and Municipal Construction; Washington State Department of Transportation, M 41-10.

1.04 SUBMITTALS

A. Submit the following documents to, and obtain written approval from, the Engineer before placing any concrete on the job:

1. Certificates of Specification compliance for materials to be used.
2. Proposed concrete mix design, indicating constituent material contents per cubic yard of concrete.
3. Mix design test certificates for compressive strength, yield, air content, and slump of the proposed concrete mix. As a minimum, compressive strength test results at 7, 14, and 28-days shall be provided in accordance with ACI 318 5.3 unless otherwise specified.
4. Manufacturer's name and certificates of compliance with applicable standards shall be provided for all admixtures, concrete bonding agents, curing compounds, etc., proposed for use on the job.

1.05 VERIFICATION OF ELEVATIONS AND DIMENSIONS

A. Field verify existing surface elevations.

1.06 QUALITY ASSURANCE

A. Inspection and Testing as follows:

1. Port will provide necessary inspection and testing as required.
2. Provide all necessary assistance and access in carrying out such inspections and tests, including sufficient mixed concrete and constituent

materials required for testing and inspection, at no additional cost to the Port.

B. Qualification of Workmen as follows:

1. Provide at least one person who shall be present at all times during execution of this portion of the work. They shall be thoroughly trained and experienced in concrete work, and shall direct all work performed under this section.
2. Trained and experienced journeyman concrete finishers shall be responsible for finishing of exposed surfaces.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All concrete shall be normal weight concrete and ready-mix. Batching, mixing, transportation, and delivery of ready-mix concrete shall conform to ASTM C94.
- B. Obtain cementitious materials from same source throughout.

2.02 MATERIALS

A. Forms

1. Forms shall be required for all concrete placements, unless otherwise approved by the Engineer.
2. Forms shall be wood or metal. Metal forms shall have all bolt and rivet heads countersunk so that a plane, smooth surface of the desired contour is obtained. Wood forms shall be sheathed or lined with plywood or tempered masonite so as to form even and uniform surfaces. Plywood forms shall not be used with the second ply exposed. Plywood panels shall be as large as possible.
3. Form ties shall be of approved round design, free from devices that will leave holes or depressions larger than 1-1/4 inches in diameter and of a type that when forms are removed shall leave no metal within 1-inch of finished surfaces. Ties that remain in place, i.e., snapties, shall have a center waterstop washer. Tie wire shall be in accordance with ASTM A82; minimum 16-gage wire required.

B. Reinforcing

1. Bars shall be of the sizes and shapes shown and shall conform to ASTM A615, Grade 60. Bars shall be free of mill, scale, rust, or other coatings.
2. Tie Bars: Shall be deformed steel bars meeting the requirements of ASTM A615, Grade 60.

3. Dowel Bars: Shall be straight, smooth, solid round bars, free from burring or other deformation that would interfere with free movement in the concrete. Dowels shall meet the requirements of ASTM A615, Grade 60. Coat sliding portion of each bar with factory applied, paraffin based lubricant. Lubricant shall be Dayton Superior DSC BB-Coat or Valvoline Tectyl 506 or approved equal. Support dowels with steel baskets or dowel assemblies. Supports shall conform to manufacturers recommendations for rigid welded dowel assemblies, heavy duty type. Weld spacer wires parallel to dowels and weld alternate ends of dowels to sides of assembly. Sliding surfaces shall be parallel with longitudinal axis of pavement within a tolerance of 1/8 inch per foot. Sliding end of assembly crossing joint shall alternate on each side of joint for all dowels in each joint.
4. Tie Wire: ASTM A82 No. 16-gage minimum double annealed black wire
5. Detailing: ACI 315

C. Aggregate

1. Conform to ASTM C33.
2. All coarse and fine aggregate shall consist of hard, tough, durable, particles free from foreign materials, and shall be stored in such a manner as to prevent segregation, excessive breakage, and the introduction of foreign material.
3. Coarse aggregate shall be size 57.

D. Water-reducing admixtures: Conform to the requirements of ASTM C494. Dosage rates in accordance with the manufacturer's recommendations.

E. Air-entraining admixtures: Conform to ASTM C260. Dosage rates in accordance with the manufacturer's recommendations to meet the air content specified herein. The air-entraining admixture shall be added directly to the concrete materials either before or during mixing.

F. Curing Materials

1. Curing materials and methods (if allowed by the Engineer) shall conform to ACI 308.
2. Curing and Sealing Compound (if allowed by the Engineer) shall conform to ASTM C309. Compound must be compatible with all applied finishes designated for use. Materials shall provide water retention not exceeding loss of .055 kg per square meter of surface in 72 hours when used at a coverage of 200 square feet per gallon and tested in accordance with ASTM C156.
3. Non-staining Waterproof Paper Covering: ASTM C171.
4. Polyethylene Film: Permeance not to exceed 0.20 perms when tested according to ASTM E96, Procedure B.

G. Expansion Joint Material

1. Pre-molded filler, bituminous fiber type, ASTM D1751.

H. Joint Sealant

1. Joint Sealant shall conform to ASTM D6690 or ASTM C920, Type M, Class 25, Use T.

I. Patching Material and Bonding Agent

1. Bonding Agent Placement: BASF Concrese Liquid LPL Bonding Agent or approved equal. Dampen surface and remove any standing water to achieve a saturated surface dry condition immediately prior to applying bonding agent and topping concrete placement.
2. High Performance Portland Cement Mortar: pre-packaged 9000 psi high strength mortar, BASF Emaco T430, available in 55lb bags, or approved equal.

2.03 CONCRETE MIX DESIGN

- A. The proportions of aggregate to cement for any concrete shall be such as to produce a mixture which will work readily into the corners and angles of the forms, around reinforcement and embedded items, with the least possible segregation of the material and preventing excess free water to collect on the surface.
- B. Mix design and testing shall be evaluated according to ACI 318 chapter 5. Mix design submittal shall include sufficient information to evaluate the mix per this standard.
- C. Concrete shall be ready mixed concrete conforming to ASTM C94 and the following:
 1. 3-day compressive strength: 4000 psi minimum
28-day compressive strength: 6000 psi minimum
 2. Slump: (3) inches, plus or minus one (1) inch. Slump may be increased by the addition of a water reducing admixture if approved by the Engineer.
 3. Aggregate: Per ASTM C33. Specific gravity of 2.60 minimum required.
 4. Cement: Cement shall conform to ASTM C150, Type I/II.
 5. Admixtures
 - a. All admixtures shall be supplied by one manufacturer approved by the Engineer.
 - b. Chemical admixtures shall conform to ASTM C494.

- c. Slag cement is not allowed.
- d. Air-Entraining Agents: Shall meet the requirements of ASTM C260 and shall be added to the mixer in the amount necessary to produce (5%) entrained air; plus or minus 1-1/2%.
- e. Water-Reducing Agents: Shall be Master Builders' Pozzolith," or approved equal, conforming to ASTM C494, Type A for water-reducing, Type D for water-reducing and retarding, and Type E for water-reducing accelerating.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify compacted base course is acceptable and ready for concrete.
- B. Verify gradients and elevations of base are correct.

3.02 PREPARATION

A. Inspection:

- 1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
- 2. Verify that all items to be embedded in concrete are in place, properly oriented, located, and secured.
- 3. Verify that concrete may be placed to the lines and elevations indicated on the Drawings, with all required clearance for reinforcement.

B. Cleaning:

- 1. Thoroughly clean all areas in which concrete is to be placed to remove all wood debris, sawdust, tie wire cuttings, and all other deleterious materials.
- 2. Clean and roughen existing concrete or concrete from a previous pour to provide a bondable surface.
- 3. Thoroughly wet concrete forms which have not been treated with oils, waxes, or other bond breakers prior to placing concrete.
- 4. Clean all transporting and handling equipment of all hardened concrete.

C. Notification:

- 1. Notify the Engineer at least 24-hours in advance of concrete placement.

3.03 FORMWORK

- A. Forms shall be used to confine the concrete to the shape, line and dimensions of the members, and shall be substantial and sufficiently tight to prevent leakage of mortar. Forms shall be adequate in strength, securely anchored and properly braced and/or tied together to maintain position, shape and alignment within the specified tolerances during all concrete placement and consolidation of operations.
- B. The inside of forms shall be clean, free of encrusted grout and coated with a form release compound appropriate for the form surface and concrete finish required. Forms shall be thoroughly wetted before placing concrete. Under no circumstances shall form release compound be allowed to contact reinforcing steel or construction joint surfaces.

3.04 REINFORCING

- A. Fabrication and placement of all reinforcing steel, including the dimensions and radii of cold bent bends, shall comply with ACI 318.
- B. Before any concrete is placed, all reinforcing steel in the section or area to be placed shall be securely tied in place (alternate bar intersections minimum).
- C. Placing and Fastening: Place all steel reinforcement accurately and hold firmly in the position indicated on the Drawing during the placing and setting of concrete. Tie bars at all intersections, except where spacing is less than one foot in each direction, then tie alternate intersections.
- D. Minimum Cover: Provide the following minimum concrete covering of reinforcement:
 1. Concrete below ground deposited against forms: Two (2) inches
 2. Concrete deposited against earth: Three (3) inches
 3. Cover at unformed top surfaces: Two (2) inches
- E. Splicing: Furnish reinforcement in the full lengths indicated on the Drawings or Task Order. When approved by the Engineer, stagger splices minimum 24 inches or one lap length whichever is greater. Unless shown otherwise, lap all reinforcing with a class A lap per ACI 318 (18 inches minimum).
- F. Steel reinforcement, at the time concrete is placed around it, shall be free from loose rust or mill scale, oil, paint, and all other coatings which will destroy or reduce the bond between steel and concrete.

3.05 CONCRETE

A. Placement

1. Concrete shall not be placed without adequate cover during expected rainy periods. Cover materials shall be at the job site, ready for installation before concreting is started and shall remain in place until the concrete has set sufficiently to resist any damage to the finish from rainfall.
2. Water shall be removed from within forms and excavation before and during placement of concrete.
3. Concrete shall be deposited in all cases as near as practicable directly in its final position and shall not be caused to flow in the mass in a manner to permit or cause segregation. Dropping concrete a distance of more than 5 feet vertically without proper confinement or depositing a large quantity at any point and running or working it along the forms will not be permitted.
4. Concrete shall be consolidated with the aid of mechanical vibrating equipment supplemented by hand spading and tamping. Vibrating equipment shall be of the internal type and shall at all times be adequate to properly consolidate all concrete.

B. Cold and Hot Weather Concreting

1. Do not place concrete when the atmospheric temperature drops below 40°F or rises above 90°F, unless special procedures are followed. The temperature of the concrete at time of placement shall not be over 80°F.
2. Follow procedures for production, delivery, placing, curing, inspection and testing of concrete under hot or cold weather conditions in accordance with the recommendations of ACI 305, "Hot Weather Concreting" or ACI 306, "Cold Weather Concreting".
3. If concrete is placed during cold or hot weather conditions, submit documentation to the Port demonstrating how the procedures described in the above referenced ACI documents will be followed. The Contractor's documentation shall be received by the Port no later than 72 hours prior to concrete placement.
4. The Port's review of this documentation does not relieve the Contractor's responsibility to provide concrete per the Contract Documents.

C. Finishing

1. Spreading dry cement for finishing is not permitted.
2. Finishing operations of all formed surfaces shall begin immediately upon removal of the forms and shall be completed within 8 hours following form removal. Immediately after form removal, all fins, unsightly ridges and projections, and exposed lips and edges shall be removed with a sharp tool or stone to make smooth and flush with adjoining surfaces. All tie rod

holes shall be mortar packed. Honeycomb areas shall be patched or cut-out and replaced as directed by the Engineer.

3. Float Finish: All concrete slabs shall be float finished and sloped to indicated grades. Floating may be performed by use of hand or power driven equipment. Floating shall be started as soon as the screeded surface has stiffened sufficiently to produce a uniform surface free from screed marks.
4. Broom Finish: Slabs shall be floated as specified above and then broomed immediately following. The broom shall be of an approved type that will produce regular corrugations not over 1/16-inch-deep. Strokes of the broom shall be to edge of the slab. The finished surface shall be free of porous spots, irregularities, depressions, and pockets.

D. Curing

1. Protect concrete from premature drying. Provide temporary housing, covering, heating, cooling, or other protection as needed. Follow finishing operations with curing measures within 2 hours.
2. Keep concrete continuously moist for 7 days. Prevent rapid drying at the end of the curing period. Accomplish cure by one of the following methods:
 - a. Ponding or continuous sprinkling.
 - b. Absorbent mats or fabrics kept continuously wet.
 - c. Use curing compounds as specified. Remove compound film from all exposed surfaces at the end of curing period. Obtain Engineer's approval for all curing compounds used on vertical surfaces.
 - d. Non-staining waterproof paper as specified. Keep all joints airtight and weighted in place.
 - e. Non-staining polyethylene film as specified. Keep all joints weighted to prevent wind penetration.

E. Tolerances

1. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
2. Maximum Variation From True Position: 1/4 inch.

F. Protection

1. Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury.
2. Vehicular traffic shall not be permitted over concrete until strength of concrete has reached 4000 psi.

G. Testing

1. Testing of concrete material will be done by the Port. Methods of sampling, testing, evaluation, and acceptance will conform to ACI 301. All fresh concrete samples intended for testing will be taken at the point of deposit into the formwork.
2. Testing, as described above, will be at Engineer's discretion and in no way relieves the Contractor of any obligations.
3. Additional tests by the Port may include the following:
 - a. Additional testing and inspection required because of changes in materials, proportions, and procedures.
 - b. Additional testing of materials or concrete occasioned by their failure by test or inspection to meet Specification requirements.
4. Any delivered load of concrete that is rejected shall be disposed of completely off-site in conformance with all applicable environmental regulations.

H. Rejected Concrete

1. Concrete not conforming with any portion of the specifications or concrete damaged from any cause and any concrete which shall be found defective at any time before the completion and acceptance of the work shall be removed and replaced.

END OF SECTION

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

- A. The provisions herein shall apply to survey, concrete and asphalt removal, clearing and grubbing, excavation, removal of structures and obstructions, removal of unsuitable materials, subgrade preparation, placing materials including but not limited to bankrun gravel, crushed ballast, crushed surfacing, compaction, and finished surface grading.
- B. The provisions herein shall also apply to all work, materials, and labor to trench, provide shoring or extra excavation, dewater, backfill, compact fill, haul, and dispose of unsuitable materials.
- C. Existing improvements, adjacent property, utilities, and other facilities, shall be protected from damage resulting from the Contractor's operations.
- D. Excavating and grading which is part of this Contract, shall be completed within the tolerances established or within reasonably close conformity with the existing grade and surface. All finished surfaces shall be graded to drain and match existing conditions without holes, bumps, tripping hazards, or other surface irregularities.

1.02 RELATED WORK SPECIFIED ELSEWHERE

The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in:

- A. Section 01 33 00 – Submittals
- B. Section 01 45 00 – Quality Control
- C. Section 01 57 13 – Temporary Erosion and Sediment Control and Construction Stormwater Pollution Prevention
- D. Section 01 74 19 – Construction Waste Management and Disposal

1.03 SUBMITTALS

The Contractor shall perform, pay for, and submit test reports, grading sieve analysis, and pit source data for all imported materials.

Material provided from approved off-site pit sources (WSDOT approved pit sources) do not need to be characterized for hazardous substances or regulated materials as specified in 2.17 but the Port reserves the right to request certification/documentation verifying the material does not contain materials exceeding Method A cleanup levels for unrestricted land use under the Model Toxics Control Act (WAC 173-360-900 Table 740-1).

Off-site borrow material from non-approved pit sources (i.e. materials from other Port or Contractor properties or stockpiles) shall be tested for regulated materials and the Contractor shall submit test certification demonstrating compliance with these specifications.

On-site materials shall be tested according to paragraphs 2.18 and 2.19. Submit test reports for all suspect material as specified in 2.18.

Submit test reports for all field tests to determine in-place density as specified in Paragraph 3.21.

1.04 QUALITY ASSURANCE

The Port will provide testing and inspection service to the satisfaction of the Engineer unless otherwise specified. Sampling and testing for compliance with the Contract provisions shall be in accordance with Section 01 45 00 Quality Control of these specifications. The Contractor may obtain copies of results of tests performed by the Port at no cost. Tests conducted for the sole benefit of the Contractor shall be at the Contractor's expense.

1.05 SITE CONDITIONS

- A. Water Control: The Contractor's work shall be conducted as specified in Section 01 57 13 Temporary Erosion and Sediment Control and Construction Pollution Prevention and as included herein. The Contractor's operations shall be conducted in such a manner as to prevent sediment and construction waste from reaching existing sewers, storm drains, streams, or waterways. The Contractor shall provide temporary erosion control measures as necessary to protect these facilities. The Contractor is solely responsible for compliance with all applicable laws, regulations, and requirements for surface water management related to Contractor's work activities.
- B. Groundwater: The Contractor should anticipate encountering groundwater between elevations 9 to 12. The groundwater elevation varies depending upon proximity to the shoreline, tidal conditions and weather.
- C. Existing Utilities: The Contractor shall verify the location of existing utilities at the site and mark, stake, or flag those utilities which are to remain. Damage to utilities which are to remain shall be repaired by the Contractor at no cost to the Port.
- D. Barricades/Traffic Control: For work within the right-of-way, the Contractor shall provide traffic control plans, obtain permits, and place barriers, signing, flaggers, and spotters according to permit requirements. For work on Port property, barriers shall be placed as each end of all excavations and at such places as may be necessary along excavations to warn all pedestrians and vehicular traffic of such excavations.
- E. Safety: Lighted barriers shall also be placed along excavations from one hour before sunset each day to one hour after sunrise of the next day until such excavation is entirely backfilled and compacted, finish graded, and work completed. All excavations shall be barricaded in such a manner as to prevent person or persons from entering all excavation sites public or private. The Contractor shall provide temporary fencing, spotters, and flaggers for construction activity as directed by the Engineer.

PART 2 – PRODUCTS

Materials shall be of the quality, size, shape, gradation, or equal to that manufacture as specified herein.

2.01 BANKRUN GRAVEL CLASS “B”

Bankrun gravel shall consist of granular material meeting the characterization requirements in paragraph 2.17, either naturally occurring, or processed meeting the following requirements.

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Bankrun Gravel Class “B” shall meet the specifications for Gravel Borrow, Select Borrow, Common Borrow, and Gravel Backfill as directed by the Engineer.

2.02 CRUSHED ROCK (Gradation as Required)

Crushed rock shall consist of granular material meeting the characterization requirements in 2.17 either naturally occurring or processed meeting the following requirements. Crushed Rock shall meet the specifications for Ballast, Shoulder Ballast, Crushed Surfacing, Maintenance Rock, Aggregate for Gravel Base, Gravel Backfill for Pipe Zone Bedding, Gravel Backfill for Drains, Gravel Backfill for Foundations, and Gravel Backfill for Walls.

2.03 GRAVEL BORROW

Aggregate for gravel borrow shall consist of granular material, either naturally occurring or processed, and shall meet the following requirements for grading and quality:

Sieve Size	Percent Passing
4" square ¹	100
2" square	75-100
U.S. No. 4	50-80
U.S. No. 40	30 max.
U.S. No. 200	7 max.
Dust Ratio	2/3 max.
Sand equivalent	50 min.

All percentages are by weight.

¹For geosynthetic reinforced walls or slopes, 100 percent passing 1-1/4 inch square sieve and 90 to 100 percent passing 1 inch square sieve.

Ballast may be substituted for gravel borrow for embankment construction.

2.04 SELECT BORROW

Aggregate for select borrow shall consist of granular material, either naturally occurring or processed, and shall meet the following requirements for grading and quality:

Sieve Size	Percent Passing
6" square ^{1,2}	100
3" square	75-100
U.S. No. 40	50 max.
U.S. No. 200	10.0 max.
Sand equivalent	30 min.

All percentages are by weight.

¹ For geosynthetic reinforced walls or slopes, 100 percent passing 1-1/4 inch square sieve and 90 to 100 percent passing 1 inch square sieve.

² 100 percent shall pass 4-inch square sieve and 75 to 99 percent shall pass 2-inch square sieve when select borrow is used in the top 2-feet of embankments.

2.05 COMMON BORROW

Material for common borrow shall consist of granular or nongranular soil and/or aggregate which is free of deleterious material and is non-plastic. Deleterious material includes wood, organic waste, coal, charcoal, or any other extraneous or objectionable material. The material shall be considered non-plastic if the percent by weight passing the U.S. No. 200 sieve does not exceed 15 percent, or if the soil fraction passing the U.S. No. 40 sieve cannot be rolled, at any moisture content, into a thread as described in Section 4 of AASHTO Test Method T 90. The material shall contain no more than 3 percent organic material by weight.

Imported material or Port stockpiled material used as common borrow shall be characterized as specified in paragraphs 2.17 and 2.19 at the Contractor's expense.

On-site materials shall be characterized according to paragraphs 2.18 and 2.19 at the Contractor's expense.

2.06 GRAVEL BACKFILL and (TRENCH BACKFILL)

Material used for backfill shall be clean, free-draining, sandy gravel or gravelly sand obtained from natural deposits or from excess soils generated during site construction activities. Individual particles shall be free from all objectionable coating. The material shall contain no organic matter or soft friable particles considered objectionable by the Engineer.

Material used for backfill shall be one of the following:

- A. Material from trench excavation or other on-site borrow soils generated during construction at the site, as approved by the Engineer in accordance with paragraph 2.12, free from organic matter, demolition debris, or other deleterious substances, and containing no rocks or lumps over 6 inches in greatest dimension, except where otherwise approved by the Engineer. "Nesting" of rock pieces that will create voids will not be permitted. Characterization of on-site common borrow materials shall be completed by the Port of Tacoma as directed by the Engineer.
- B. Imported fill material for trenches consisting of Aggregate for Gravel Base as specified in Paragraph 2.12, excepting however that 100 percent of the material shall pass a 2 ½ inch square screen. Off-site borrow materials shall be characterized as specified in sections 2.17 and 2.19 at the Contractor's expense.

Material shall be graded between the limits specified below:

Sieve Size	Percent Passing
8" square	100
4" square	95-100
3/" square	60-90
U.S. No. 10	25-65
U.S. No. 40	10-40
U.S. No. 200	0-4

All percentages are by weight.

The moisture content of fill material shall be within minus 2 percent to plus 1 percent of the optimum moisture content at the time of compaction.

2.07 BALLAST

Ballast shall consist of crushed, partially crushed, or naturally occurring granular material from approved sources. The material from which ballast is to be manufactured shall meet the following test requirements:

Los Angeles Wear, 500 Rev 40% max.

Degredation Factor 15 min.

Ballast shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the site or during manufacture and placement into a temporary stockpile.

Sieve Size	Percent Passing
2-1/2" square	100
2" square	65-100
1" square	50-85
U.S. No. 4	26-44
U.S. No. 40	16 max.
U.S. No. 200	9 max.
Dust Ratio	2/3 max.
Sand equivalent	35 min.

All percentages are by weight.

The portion of ballast retained on U.S. No. 4 sieve shall not contain more than 0.2 percent wood waste.

2.08 SHOULDER BALLAST

Shoulder Ballast shall meet the provisions of Paragraph 2.07 for ballast except for the following special grading and quality requirements:

Sieve Size	Percent Passing
2-1/2" square	100
2" square	65-100
3/4" square	40-80
U.S. No. 4	5 max.
U.S. No. 100	0-2
% Fracture	75 min.

All percentages are by weight.

The sand equivalent value and dust ratio requirements do not apply.

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The fracture requirement shall be at least one fractured face and will apply to the combined aggregate retained on the U.S. No. 4 sieve in accordance with FOP AASHTO PT 61.

2.09 CRUSHED SURFACING

Crushed surfacing shall be manufactured from ledge rock, talus, or gravel. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following quality test requirements:

Los Angeles Wear, 500 Rev.	35% Max.
Degredation Factor – Top Course	25 min.
Degredation Factor – Base Course	15 min.

Crushed surfacing of the various classes shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the site, or during manufacture and placement into a temporary stockpile.

Sieve Size	Base Course	Top Course
1-1/4" square	100	-
1" square	80-100	-
3/4" square	-	100
5/8"square	50-80	-
1/2" square	-	80-100
U.S. No. 4	25-45	46-66
U.S. No. 40	3-18	8-24
U.S. No. 200	7.5 max.	10.0 max.
% Fracture	75 min.	75 min.
Sand equivalent	40 min.	40 min.

All percentages are by weight.

The fracture requirement shall be at least one fractured face and will apply to the combined aggregate retained on the U.S. No. 4 sieve in accordance with FOP for AASHTO PT 61.

The portion of crushed surfacing retained on a U.S. No. 4 sieve shall not contain more than 0.15 percent wood waste.

2.10 MAINTENANCE ROCK

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Maintenance Rock shall be manufactured from ledge rock, talus, or gravel. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following quality test requirements:

Los Angeles Wear, 500 Rev.	35% Max.
Degredation Factor – Top Course	25 min.
Degredation Factor – Base Course	15 min.

Maintenance Rock shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the site, or during manufacture and placement into a temporary stockpile.

Sieve Size	Percent Passing
5/8" square	100
1/2" square	90-100
U.S. No. 4	45-66
U.S. No. 40	10-25
U.S. No. 200	7 max.

All percentages are by weight.

2.11 AGGREGATE FOR GRAVEL BASE

Aggregate for gravel base shall consist of granular material, either naturally occurring or processed. It shall be essentially free from various types of wood waste, organic debris, or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact readily and shall meet the following test requirements:

Stabilometer "R" Value	72 min.
Swell pressure	0.3 psi max.

The maximum particle size shall not exceed 2/3 of the depth of the layer being placed.

Gravel base shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the site or during manufacture and placement into a temporary stockpile. The exact point of acceptance will be determined by the Engineer.

Sieve Size	Percent Passing
2" square	75-100
U.S. No. 4	22-100
U.S. No. 200	0-10

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Dust Ratio	2/3 max.
Sand equivalent	30 min.

All percentages are by weight.

Gravel base material retained on a U.S. No. 4 sieve shall contain not more than 0.20 percent by weight of wood waste.

Where gravel base is specified, the Contractor may elect to substitute crushed surfacing or gravel borrow materials as described herein.

Gravel borrow may be used in lieu of gravel base provided the stabilometer value of the Gravel Borrow is a minimum of 67 and 0.1 foot of crushed surfacing top course is substituted for the top 0.1 foot of depth specified for gravel base.

2.12 GRAVEL BACKFILL FOR PIPE ZONE BEDDING

Gravel backfill for pipe zone bedding shall consist of crushed, processed or naturally occurring granular material. It shall be free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact and shall meet the following specifications for grading and quality:

Sieve Size	Percent Passing by Weight
1-1/2" square	100
1" square	75-100
5/8" square	50-100
U.S. No. 4	20-80
U.S. No. 40	3-24
U.S. No. 200	10.0 Max.
Sand Equivalent	35 min.

Imported material shall be characterized as specified in paragraphs 2.17 and 2.19 at the Contractor's expense.

2.13 GRAVEL BACKFILL FOR DRAINS

Gravel Backfill for Drains shall conform to the following gradings:

Sieve Size	Percent Passing by Weight
1" square	100
3/4" square	80-100
3/8" square	0-40
U.S. No. 4	0-4
U.S. No. 200	0-2

Imported material shall be characterized as specified in paragraphs 2.17 and 2.19 at the Contractor's expense.

2.14 GRAVEL BACKFILL FOR FOUNDATIONS

Gravel Backfill for Foundations shall be either Class A or Class B as specified by the Engineer.

- A. Gravel Backfill for Foundations Class A shall meet the grading requirements as specified in paragraph 2.07 for Ballast or Section 2.09 Crushed Surfacing Base Course.
Imported material shall be characterized as specified in paragraphs 2.17 and 2.19 at the Contractor's expense.
- B. Gravel Backfill for Foundations Class B shall meet the specifications for Aggregate for Gravel Base except that requirements for stabilometer "R" value and swell pressure do not apply.

2.15 GRAVEL BACKFILL FOR WALLS

Gravel backfill for walls shall consist of free draining granular material, essentially free from various types of wood waste or other extraneous or objectionable materials. It shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the site or during manufacture and placement into a temporary stockpile.

Sieve Size	Percent Passing
4" square	100
2" square	75-100
U.S. No. 4	22-66
U.S. No. 200	5.0 max.
Dust Ratio % passing #200/% passing #40	2/3 max.
Sand equivalent	60 min.

All percentages are by weight

That portion of the material retained on a U.S. No. 4 sieve shall contain not more than 0.20 percent by weight of wood waste.

2.16 NOT USED

2.17 CHARACTERIZATION OF OFF-SITE BORROW MATERIAL:

Materials shall be of the quality, size, shape, gradation, or equal to that manufacture as specified herein. The Contractor shall submit a characterization of any and all material to be imported including source identification, analyses of representative material source sample(s), and a source inspection report. The material shall not be imported to the site until approved by the Engineer.

- A. The Contractor shall inspect all proposed off-site borrow material sources. The Contractor shall notify the Engineer at least two weeks prior to such inspection. The Engineer reserves the right to accompany the Contractor and witness such inspection. During such inspection, the Contractor shall confirm that materials meet these specifications and contain no hazardous substances at concentrations greater than those stated in WAC 173-340-900 Table 740-1 (Method A Cleanup levels for unrestricted Land Uses). Prior to importing material, the Contractor shall provide documentation for the Engineer's approval demonstrating that all imported material is from a borrow pit that meets these fill specifications and certifies the same in writing that the material is free of Regulated Materials. Laboratory chemical data results representative of the source material shall be submitted for approval. Testing shall be performed at a laboratory accredited under

Chapter 173-50 of the WAC. Characterization testing data shall include the following, unless waived by the Engineer.

1. Grain Size Distribution (ASTM D 422-63)
2. Maximum Dry Density (ASTM D1557)
3. Priority Pollutant Metals (EPA SW 846 6010/6020/7041)
4. Volatile Organic Compounds (EPA SW 846 8260)
5. Semi-volatile Organic Compounds (EPA SW 846 8270)
6. PCBs and Pesticides (EPA SW 846 8080)
7. Petroleum Hydrocarbons (NWTPH-HCID)

The Port reserves the right to request that the Contractor provide additional test results representative of the source material. The Contractor and Engineer shall visually inspect import material upon delivery for the presence of foreign, recycled, or reprocessed material and to verify that it is the material sampled for characterization and approval. The Port of Tacoma may at any and all times perform additional independent inspection(s). Material may be rejected due to identification of any such material or as a result of substandard test results. In the event of rejection, it shall be the responsibility of the Contractor to remove all rejected material from the site at no cost to the Port. In no case will material be accepted that exceeds Method A cleanup levels for unrestricted land use under the Model Toxics Control Act (WAC 173-360-900 Table 740-1).

2.18 SUSPECT MATERIALS:

Soil suspected of containing Regulated Materials (See Section 2.19 herein), hazardous materials, or dangerous waste as identified based on visual and olfactory observations (Suspect Material) may be encountered during excavation. Soils shall be suspect material if it has an odor, sheen, or color indicating the presence of Regulated Materials.

If encountered, the Contractor shall transport the material to the earthwork stockpile area shown on the drawings and segregate the Suspect Material from other stockpiled materials. After material is placed in the stockpile area, the Port of Tacoma shall perform sampling and testing to determine the nature of the materials involved (Regulated or Non-Regulated Characterization per Section 2.19 herein), and shall determine how the material shall be handled and/or disposed of. The following methods of handling and disposal are foreseen as possible:

- A. Soils determined to be non-regulated material may be reused on-site provided the material meets the grading requirements for intended use. The Contractor shall remove the material from the earthwork stockpile and place on-site as gravel borrow fill or trench backfill.
- B. Soils determined to be Regulated Material shall be disposed at an approved landfill offsite. Transport and disposal shall be arranged by and paid for by the Contractor.
- C. Surplus soils determined to be non-regulated material shall be considered excavation including haul as part of the lump sum bid item for Earthwork and be loaded, transported

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and disposed of off-site by the Contractor in accordance with all applicable laws and regulations.

2.19 REGULATED/NON-REGULATED MATERIAL DEFINITIONS:

- A. Regulated Material shall be defined as materials or combinations of materials containing hazardous or dangerous wastes as defined under state or federal laws, or exceeding Method A cleanup levels for unrestricted land use under the Model Toxics Control Act (WAC 173-340-900 Table 740-1).
- B. Non-regulated Materials shall be defined as materials which do not contain hazardous or dangerous wastes as defined under state or federal laws, and do not contain substance levels exceeding Method A cleanup levels for unrestricted land use under the Model Toxics Control Act (WAC 173-340-900 Table 740-1).
- C. Substances which may be encountered on the site include:
 1. Priority Pollutant Metals (EPA SW 846 6010/6020/7041)
 2. Volatile Organic Compounds (EPA SW 846 8260)
 3. Semi-volatile Organic Compounds (EPA SW 846 8270)
 4. PCBs and Pesticides (EPA SW 846 8080)
 5. Petroleum Hydrocarbons (NWTPH-HCID)

2.20 QUARRY SPALLS

Quarry spalls shall consist of broken stone meeting the characterization requirements in paragraph 2.17, either naturally occurring, or processed meeting the following requirements. Quarry Spalls shall meet the specifications herein or as Loose Riprap, Heavy Loose Riprap, or Light Loose Riprap as directed by the Engineer.

Degradation Factor 15 min.

Los Angeles Wear, 500 Rev. 50% max.

Specific Gravity 2.55 min.

Sieve Size	Percent Passing
8" square	100
3" square	40 max.
$\frac{3}{4}$ "	10 max.

2.21 LOOSE RIPRAP

Loose riprap shall be free of rock fines, soil, or other extraneous material. Should the riprap contain insufficient spalls as defined in paragraph 2.20, the Contractor shall furnish and place supplementary spall material from a source approved by the Engineer, at the Contractor's

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expense. Grading of the riprap shall be determined by the Engineer by visual inspection of the load before it is dumped into place.

2.22 HEAVY LOOSE RIPRAP

Heavy loose riprap shall meet the following requirements for grading:

	Minimum Size	Maximum Size
40% to 90%	1 ton (1/2 CY)	
70% to 90%	300 lbs (2 CF)	
10% to 30%	3-inch	50 lb spalls

2.23 LIGHT LOOSE RIPRAP

Light loose riprap shall meet the following requirements for grading:

	Minimum Size	Maximum Size
20% to 90%	300 lbs to 1 ton (2 CF 1/2 CY)	
15% to 80%	500 lbs to 1 ton (1/3 CF to 1/2 CY)	
10% to 20%	3-inch	50 lb spalls

2.24 MANHOLES, CATCH BASINS, VAULTS, AND OIL/WATER SEPARATORS

Manholes, catch basins, vaults, and oil/water separators shall be of precast concrete meeting the requirements for AASTHTO M 199. Joints may be tongue and groove type or shiplap type, sufficiently deep to prevent lateral displacement. All structures shall be water-tight. Structures shall be constructed per manufacturer's recommendations and per Washington State Standard Plans B-5.20-01 thru B-95.40-00 for dimensions, materials, and configuration. Solid risers shall conform to the requirements of ASTM C55 and concrete blocks for manholes shall conform to ASTM C139. Knockout diameters, fiber or steel reinforcing, and steel hoop reinforcing shall be installed according to the Manufacturer's recommendations. Mortar shall be mixed 1:1 Type 1 Cement and Sand. Ladders and other steel components and hardware shall be hot-dipped galvanized or chemically resistant polypropylene.

Manhole and catch basin grates and lids shall be rated for aircraft loading. All underground and at grade structures including manholes, catch basins, hand holes, vaults, hatches, grates, and other features which may apply shall be designed to accommodate the load criteria below:

The soil bearing pressure shall be 1,500 psf for allowable soil bearing pressure. Live loads 1 and 2 shall act simultaneously and in combination with dead loads and hydrostatic pressure when designing utility structures within truck and top pick loading zones. The loads shall act simultaneously, but need not occupy the same space. The design shall accommodate the wheel load pattern for a Kalmar DC4580SRC4.

2.25 GEOGRIDS

Geogrids shall consist of a regular network of integrally connected polymer tensile elements with aperture geometry sufficient to permit mechanical interlock with the surrounding backfill. The long chain polymers in the geogrid tensile elements, not including coatings, shall consist of at least 95 percent by mass of the material of polyolefins or polyesters. The material shall be free of defects, cuts, and tears.

2.26 CONTROLLED DENSITY FILL “FLOWABLE FILL”

Controlled density fill “flowable” fill for filling and plugging pipes shall meet the following criteria:

1. Cement, ASTM C 150 Type I / II
2. Slurry Density, ASTM C 138 65 pcf (minimum)
3. Foamed Slurry Density, ASTM C 138 45 pcf (minimum)
4. Water / Cement Ratio 0.90 (maximum)
5. Flow, ASTM C 939 18 seconds (maximum)
6. Shrinkage, ASTM C 827 non-shrink
7. Bleeding, ASTM C 232 no bleed
8. Set Time, ASTM C 403 3 - 6 hours¹
9. Compressive strength
10. ASTM C 403 @ 24 hours 75 psi (minimum)
11. ASTM C 495 @ 7 Days 150 psi (minimum)
12. ASTM C 495 @ 28 Days 250 psi (minimum)

2.27 HMA ½" CLASS B (PG 64-22)

Hot mix asphalt concrete pavement class B furnished for pavement patches shall not have been distilled at a temperature high enough to injure by burning or to produce flecks of carbonaceous matter, and upon arrival at the work, shall show no signs of separation into lighter and heavier components. Materials shall meet the requirements:

A. AGGREGATES

Aggregates shall be manufactured from ledge rock, talus, or gravel. The material they produce shall meet the following test requirements:

Los Angeles Wear, 500 Rev.	30% Max.
Degredation Factor, Wearing Course	30 min.
Degredation Factor, Other Courses	20 min.

1. Aggregates shall be uniform in quality, free from wood, roots, bark, extraneous materials, and adherent coatings. The presence of a thin, firmly adhering film of

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weathered rock will not be considered as coating unless it exists on more than 50% of the surface area.

2. Aggregate removed from deposits contaminated with various types of wood waste shall be washed, processed, selected, or otherwise treated to remove wood waste.
3. Aggregate and aggregate proportions shall conform to the following requirements:
 - i. Fracture by weight requirements are at least one fractured face on 75 percent of the material retained on each specification sieve size U.S. No. 10 and above, if the sieve retains more than 5 percent of the total sample.
 - ii. The sand Equivalent is 37 min.

Sieve Sizes Percent Passing	½ IN.
3/4"	100
1/2"	90-100
3/8"	75-90
1/4"	55-75
No. 10	30-42
No. 40	11-24
No. 200	3.0-7.0

Aggregate passing the $\frac{1}{4}$ " sieve shall be $\pm 6\%$
Aggregate passing the No. 10 sieve shall be $\pm 5\%$
Aggregate passing the No. 40 sieve shall be $\pm 4\%$
Aggregate passing the No. 200 sieve shall be $\pm 2\%$
Asphalt cement $\pm 0.5\%$

4. Blending sand shall be clean hard sound material, either naturally occurring sand or crushed fines, and must be material which will accept an asphalt coating. The exact grading requirements for the blending sand shall be such that, when it is mixed with an aggregate, the combined product shall meet the grading requirements above. Blending sand, sand equivalent shall be 27 min.
5. Recycled materials shall not be used.

B. CLASS B ASPHALT TEST REQUIREMENTS

1. Asphalt Binder shall meet the performance requirements of AASHTO M 320 for HMA Class ½ In. PG 64-22.
2. Stabilometer value shall be 35 min.
3. The cohesion value shall be 100 min.
4. The percent air voids shall be 2-4.5.
5. The asphalt shall pass the modified Lottman stripping test
6. Flash point temperature per AASHTO T48 shall be 230 degrees Celcius minimum.

7. Viscosity per AASHTO T316 shall be a maximum of 3 Pa's at a test temperature of 135 degrees Celcius.
8. Dynamic shear per AASHTO T315 G/Sin δ at 1.00 kPa Test Temperature @ 10 rad/s, 58 degrees Celcius.
9. Rolling thin film oven residue per AASHTO T240 mass change 1% maximum.
10. Dynamic shear per AASHTO T315 G/Sin δ at 2.20 kPa Test Temperature @ 10 rad/s, 58 degrees Celcius.
11. Pressure aging vessel residue per AASHTO R28 aging temperature 100 degrees Celcius.
12. Dynamic shear per AASHTO T315 G/Sin δ maximum 5000 kPa Test Temperature @ 10 rad/s, 22 degrees Celcius.
13. Creep Stiffness per AASHTO T313 S, maximum 300 Mpa, m- value, minimum 0.300 with -12 degrees Celcius test temperature at 60 s.
14. Tack Coat shall be emulsified asphalt CSS-1 or CRS-1.
15. Joint sealers shall be PG 64-22 conforming to AASHTO Specification MP-1.

2.28 PORTLAND CONCRETE CEMENT 24 HOUR PAVEMENT PATCH

- A. Portland Cement
 1. Portland cement shall be classified as portland cement or blended hydraulic cement.
 2. Portland cement shall meet the requirements of AASHTO M 85 or ASTM C150 Types I, II, except that the cement shall not contain more than 0.75 percent alkalis by weight calculated as Na₂O plus 0.658 K₂O and the Tricalcium Aluminate (C3A) shall not exceed 8 percent by weight.
 3. Blended hydraulic cement shall be either Type IP or Type IS cement conforming to AASHTO M240 or ASTM C 595, except that the blended hydraulic cement shall not contain more than 0.75 percent alkalis by weight calculated as Na₂O plus 0.658 K₂O and the Tricalcium aluminate (C3A) shall not exceed 8 percent by weight calculated as 2.650A1203 minus 1.692Fe2O3 and meet the following additional requirements:
 - i. Type IP (X), Portland Pozzolan Cement, where (X) dictates pozzolan percentage. Type IP (X), Portland Pozzolan Cement, shall be Portland cement and Pozzolan and the pozzolan shall be limited to fly ash or ground granulated blast furnace slag. Fly ash is limited to a maximum of 35 percent by weight of the cementitious material. Ground granulated blast furnace slag is limited to a maximum of 50 percent by weight of the cementitious material.
 - ii. Type IS (X), Portland Blast Furnace Slag Cement, where (X) dictates slag percentage. Type IS (X), Portland Slag Cement, shall be portland cement and ground granulated blast furnace slag. The addition of ground granulated blast furnace slag shall be limited to a maximum of 50 percent by weight of the cementitious material.
 - iii. The source and weight of the fly ash or ground granulated blast furnace slag shall be certified on the cement mill test certificate and shall be reported as a percent by weight of the total cementitious material. The fly ash or ground granulated blast

furnace slag constituent content in the finished cement will not vary more than plus or minus 5 percent by weight of the finished cement from the certified value.

- B. Cement shall be Type I-II with a specific gravity of 3.15 and shall be mixed at 752 lbs per cubic yard (8 sack).
- C. The Portland cement mix shall have a minimum 28 day compressive strength of 6,000 psi and a 14 day flexural of 800 psi.
- D. The maximum water content shall be 2.42 lbs per cubic yard.
- E. The maximum water/cementitious ratio shall be 0.32
- F. The mix design density shall be 147 lbs per cubic foot.
- G. Portland Cement Admixtures
 - 1. Air entrainment admixture shall be 12 oz/cubic yard and yield a maximum 4.5% air entrainment.
 - 2. The portland cement mix shall have a type F high-range water reducer (ADVA 195 or approved equal) mixed at 13 oz/cubic yard.
 - 3. The Portland cement mix shall have a type A water reducer mixed at 36 oz/cubic yard.
 - 4. The portland cement mix shall have a maximum slump of 4.5 inches.
- H. Aggregates for Portland Cement Concrete shall be manufactured from ledge rock, talus, or gravel. The material they produce shall meet the following test requirements:

Los Angeles Wear, 500 Rev.	35% Max.
Degredation Factor, Wearing Course	30 min.
Degredation Factor, Other Courses	20 min.

- 5. Fine aggregates shall consist of sand or other inert materials, or combinations thereof, having hard, strong, durable particles free from adherent coating. Fine aggregate shall be washed thoroughly to remove clay, loam, alkali, organic matter, or other deleterious material.
- 6. The amount of deleterious substances in the washed aggregate shall not exceed the following values:
 - i. Particles of specific gravity less than 1.95 or 1.0 percent by weight.
 - ii. Organic matter, by colorimetric test, shall not be darker than the reference standard color (organic plate No 3) AASHTO T21 unless other tests prove a darker color to be harmless.
- 7. Course Aggregate for Portland Cement Concrete.
Course aggregate for concrete shall consist of gravel, crushed stone, or other inert material or combinations thereof having hard, strong, durable pieces free from adherent

coatings. Course aggregate shall be washed to remove clay, silt, bark, sticks, organic matter, or other deleterious material.

i. Deleterious Material

The amount of deleterious substances shall not exceed the following values:

Amount finer than No. 200	1.00 percent by weight
Pieces of Specific Gravity Less than 1.95	2.00 percent by weight
Clay lumps	0.50 percent by weight
Shale	2.00 percent by weight
Wood waste	0.05 percent by weight

For coarse aggregate with a minimum single face fracture content of 25 percent by weight, the material finer than the No. 200 sieve may increase to a maximum of 1.5 percent by weight. The fracture requirement shall be at least one fractured face and will apply to the combined aggregate retained on the No. 4 sieve in accordance with FOP for AASHTO T335.

8. Combined Aggregate Gradation for Portland Cement Concrete

As an option to using course and fine graded aggregates for Portland cement concrete, aggregate gradation may consist of a combined gradation. Aggregates shall consist of sand, gravel, crushed stone, or other inert material or combinations thereof, having hard, strong, durable particles free from adherent coatings. Aggregates shall be washed to remove clay, loam, alkali, organic matter, silt, bark sticks, or other deleterious matter.

i. Deleterious Substances

The amount of deleterious substances in the washed aggregate shall not exceed the following values:

Particles of specific gravity less than 1.95 or 2.0 % by weight

Organic matter, by colorimetric test, shall not be darker than the reference standard color (organic plate No. 3) AASHTO T21 unless other tests prove a darker color to be harmless.

Aggregates retained on the No. 4 sieve shall not have a percentage of wear in Los Angeles machine in excess of 35 after 500 revolutions.

Clay lumps	0.30 % by weight
Shale	1.00 % by weight
Wood Waste	0.03 % by weight
Amount finer than No. 200 sieve	2.00 % by weight

ii. Grading

The combined aggregate shall conform to the following requirements based upon the nominal maximum aggregate size.

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Nominal Maximum Aggregate Size	COMPONENT 1	COMPONENT 2	COMPONENT 3	COMPONENT 4	COMBINED AGGREGATE
Grading	Class 2 Sand	-	AASHTO #57 Agg 3/4	AASHTO #4 Agg 1-1/2	-
Fineness Modulus	2.78	-	-	-	-
Specific Gravity	2.65	-	2.68	2.68	-
Lbs/CY (ssd)	1000	-	1500	500	-
PERCENT PASSING					
2"	-	-	-	100	100.0
1 1/2"	-	-	100.0	97.0	99.5
1"	-	-	98.0	30.0	87.3
3/4"	-	-	86.0	8.0	77.7
1/2"	-	-	45.0	3.0	56.3
3/8"	-	-	20.0	2.0	43.7
No. 4	100.0	-	2.0	0.9	34.5
No. 8	85.0	-	0.4	0.5	28.6
No. 16	66.0	-	0.4	0.5	22.3
No. 30	46.0	-	0.4	0.5	15.6
No. 50	19.0	-	0.4	0.5	6.6
No. 100	6.0	-	0.4	0.5	2.3
No. 200	1.6	-	0.4	0.5	0.8

All percentages are by weight.

Nominal maximum size for concrete aggregate is defined as the smallest standard sieve opening through which the entire amount of the aggregate is permitted to pass. Standard sieve sizes shall be those listed in ASTM C33.

Alkali Silica Reactivity Mitigation is required for sources with expansions over 0.20% - indicate method for ASR mitigation. For expansion of 0.21% - 0.45%, acceptable mitigation can be the use of low alkali cement or 25% type F fly ash. Any other proposed mitigation method or for pits with greater than 0.45% expansion, proof of mitigation measure, either ASTM C1260 or AASHTO T303 test results must be attached. If ASTM C 1293 testing has been submitted indicating a 1-year expansion of 0.04% or less, mitigation is not required.

PART 3 – EXECUTION

3.01 UTILITY LOCATION AND PREPARATION FOR EXCAVATION

- A. Identify required lines, levels, contours, and datum locations.
- B. The Contractor shall employ the services of an experienced underground utility locator to mark the locations of existing utilities and underground piping systems in the area of the work. Those utilities which are to remain shall be adequately protected from damage.

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Damage to utilities or systems that are to remain shall be repaired by the Contractor at no Cost to the Port.

- C. Notify utility company to remove and relocate utilities.
- D. Protect bench marks, survey control points, existing structures, utilities, monitoring wells, fences, sidewalks, paving, curbs, and other site improvements from excavating equipment and vehicular traffic.
- E. Protect plants, lawns, rock outcroppings, and other features to remain.
- F. Contractor shall develop a shoring plan and structural requirements to underpin adjacent structures that could be damaged by excavating work or to excavate to accommodate new structures and construction operations.

3.02 ASPHALT REMOVAL

- A. Where directed by the Engineer, the Contractor shall remove the existing pavement such as asphalt concrete, bituminous road mix, multiple lift bituminous surface treatment and any other combinations of above described components, placed upon an earth or granular subgrade located within the excavation area.
- B. The Contractor shall full depth vertically sawcut between any existing pavement, sidewalk, curb, or gutter that is to remain and the portion to be removed before excavating, breaking, or chipping, and hauling broken-up pieces for disposal.
- C. The Contractor shall replace at no expense to the Contracting Agency any existing pavement or sidewalk designated to remain that is damaged during the removal of other pavement or sidewalk.

3.03 CONCRETE REMOVAL

- A. Where directed by the Engineer, existing concrete slabs shall be removed with a method approved by the Engineer. Care must be taken not to disturb or damage any existing underground utilities during demolition of the concrete. The thickness of the slabs and amount of steel reinforcing may vary.
- B. The Contractor shall full depth vertically sawcut between any existing pavement, sidewalk, curb, or gutter that is to remain and the portion to be removed before excavating, breaking, or chipping, and hauling broken-up pieces for disposal.
- C. The Contractor shall replace at no expense to the Contracting Agency any existing pavement or sidewalk designated to remain that is damaged during the removal of other pavement or sidewalk.

3.04 COMMON EXCAVATION

The Work Described in this Section, regardless of the nature or type of the materials encountered, includes clearing, grubbing, removing unsuitable materials, excavating and grading the site, excavating in borrow pits, below grade, channels, berms, and disposing of all excavated material. These activities may be performed in making cuts, embankments, slopes, ditches, approaches, parking areas, and other excavations as directed by the Engineer.

- A. Contractor shall supply labor, materials, and equipment to perform excavation of compacted or naturally occurring earth, sand, gravel, clays, or mixtures of the above, required to be moved for the construction of roadways, slopes, approaches, parking areas, and other work as directed by the Engineer.
- B. Excavation shall consist of excavating, removing and placement or disposing as required, of all formations and materials, natural or man-made, irrespective of nature or condition, encountered within the limits defined, necessary for the associate work. Excavation material shall be moved with the use of mechanical equipment, such as shovels, loaders, bulldozers, graders, rippers, etc., but shall not require drilling and blasting or drilling and line breaking.
- C. Excavation by sluicing method will not be permitted unless specifically approved by the Engineer. In general, excavation shall be removed in horizontal layers in such a way that the resulting material will be a reasonable blend of the naturally occurring materials.
- D. Excavation shall also comprise and include the satisfactory loosening, scarification, removal, loading, transporting, depositing, and compacting in the final location all materials, wet and dry, necessary to be removed. All excavated materials which are not required for fill and backfill, or which are unsuitable for fill and backfill, shall be disposed of by the Contractor, at the Contractor's expense and responsibility and in a manner acceptable to the Engineer.
- E. At any time, the Engineer may order additional excavation below subgrade to remove unsuitable, or soft and uncompactible material. Common excavation shall include removal and disposal of surplus materials and unsuitable excavation material. Unsuitable excavation shall consist of unstable materials, such as peat, muck, water impregnated clays, swampy soils or other undesirable materials, including concrete, creosote treated timber piling, buried logs, stumps, or trash. Contractor shall haul excess excavation to a disposal site and no surplus material shall be disposed of on Port property. Replacement material shall be free draining and granular, or other material as determined by the Engineer.
- F. Contractor shall provide shoring or extra excavation for excavations deeper than 4 feet.
- G. During excavation the Contractor shall provide dewatering as necessary and excavation and filling shall be performed in a manner and sequence that will allow drainage at all times. It shall be the sole responsibility of the Contractor to control the rate and effect of the dewatering operations in such a manner as to avoid all objectionable settlement and subsidence.
- H. Rocks, broken concrete, or other solid materials which are larger than 4 inches in greatest dimension, shall not be placed in fill areas and shall be removed from the site by the Contractor at no additional cost to the Port.

I. Characterization and Disposal of Suspect Materials:

1. The Port of Tacoma will pay for and conduct testing of all suspect materials. The Contractor shall notify the Port as stockpiled materials are ready for testing. After notification, the Contractor shall allow seven (21) days for Port testing and classification of stockpiled materials.
2. Stockpiled material shall be deposited onto bermed, folded, and anchored sheathing such that no rainwater or surface flows can contact the stockpiled material. Suspect materials shall be segregated from other stockpiled material.
3. Following testing of stockpiled suspect materials:
 - a. Further management, handling, and disposal of material determined by the Port to be Non-Regulated Materials shall be the responsibility of the Contractor. Contractor also shall be responsible for the performance and cost of any additional characterization of material that may be required for Contractor's choice of disposal locations.
4. It shall be the responsibility of the Contractor, at no additional cost to the Port, to excavate, stockpile, and load material determined by the Port to be Regulated Materials into trucks for transport and disposal off-site by the Contractor. The Contractor shall be responsible, at no additional cost to the Port, for completion of any associated health, safety and decontamination activities on the project site or in association with the Contractor's equipment. The Contractor shall arrange for the appropriate transport and disposal of Regulated Materials and provide disposal documentation to the Port. Documentation shall include at a minimum, truck identification, material type, load time, location, load quantity, and disposal site.

3.05 DELIVERY, STORAGE, AND HANDLING

Work herein generally consists of providing all materials, labor, tools, and equipment to deliver, store, and handle materials necessary to perform excavation, trenching, backfill, and compaction and trench compaction.

- A. When necessary, store materials on-site in advance of need.
- B. When fill materials need to be stored on-site, locate stockpiles where indicated by the Engineer.
 - a. Separate different materials with dividers or stockpile separately to prevent intermixing.
 - b. Cover, or isolate stockpiles to prevent contamination.
 - c. Protect stockpiles from erosion and deterioration of materials.
- C. Protect excavated material, stockpiled for use as backfill, from contamination by other materials and from damage by weather by covering with waterproof sheeting or other suitable means.

3.06 EXCAVATION, STRUCTURE EXCAVATION, & TRENCHING FOR UTILITIES

- A. Unexpected Conditions: Contractor shall notify the Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume.
- B. Footings and Foundations: Contractor shall not undercut, or over-excavate, or otherwise interfere with a 45 degree bearing splay of foundations.
- C. Trench Width: The Contractor shall maintain, at all times during the excavation of this work, safe, and stable excavations. All trench excavation shall be excavated to a depth and grade as determined, staked, or specified by an Engineer and be of sufficient width in the pipe zone to permit proper installation and bedding of the pipe and provide the required compaction and backfill and be wide enough to allow inspection of installed utilities. Above the top of the pipe zone, the Contractor may excavate any width. For all pipes, pipe arches, structural plate pipes, trench widths shall be excavated accordingly:
 - a. Drain and Underdrain Pipes, trench width = I.D. + 12 inches
 - b. For pipes 15 inches and under, trench width = I.D. + 30 inches
 - c. For pipes 18 inches and over, trench width = (1.5 x I.D.) + 18 inches
 - d. For a manhole, catch basin, grate inlet, drop inlet, or other stormwater structure, the limits will be one foot outside the perimeter of the structure.
- D. Trimming Excavations and Trenches: Contractor shall hand trim excavations to neat lines as indicated in the plans, specifications, or as directed by the Engineer. All ledgerock, boulders, and stones shall be removed to provide a minimum of 6-inches clearance under all portions of the pipe. Placement of bedding shall precede the installation of all pipe. This shall include necessary leveling of the native trench bottom or the top of the foundation material as well as the placement and compaction of required bedding material to a uniform grade so that the entire length of pipe will be supported on a uniform dense unyielding foundation.
- E. Over Excavation: Excavation below the desired depth, except as directed by the Port, shall be backfilled with imported fill material and compacted as specified, at no extra cost to the Port.
- F. Unsuitable Materials: Contractor shall remove excavated material that is unsuitable for re-use. When, after excavating to the foundation level, the material remaining in the trench bottom is determined to be unsuitable by the Engineer, excavation shall be continued to such additional depth and width as required by the Engineer. Unsuitable foundation materials shall be removed and disposed of at an approved site. The trench foundation shall be backfilled to the bottom of the pipe zone with gravel backfill for foundations, gravel backfill for pipe zone bedding, or other suitable material and compacted to form a uniformly dense, unyielding foundation.

Unsuitable Structural and Trench Excavation: Shall consist of unstable materials, such as peat, muck, water-impregnated clays, swampy or other undesirable materials, including buried logs, stumps, or trash. Unsuitable excavation materials shall be removed to the depth designated by the Port.
- G. Material Re-Use: Material meeting grading requirements as specified in Part 2 - Materials shall be stockpiled for use as backfill and protected from cross-contamination,

by other materials and from damage by weather by covering with waterproof sheeting or other suitable means, as approved by the Engineer.

- H. Shoring: Brace and shore sides of excavations. Comply with all federal, state, and local regulations regarding shoring, bracing, and other protection requirements.
- I. Dewatering: Contractor shall keep water out of excavated pits and trenches by pumping or other means of dewatering. The water level shall be kept below the bottom of the trench and concrete pours before, during, and for a minimum of three days thereafter.
- J. Open Trenches: The length of trench excavation in advance of pipe laying shall be kept to a minimum. Excavations shall either be closed up at the end of the day or protected. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, and any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of the work. The Contractor shall provide any measures or actions the Engineer may deem necessary to protect the public and property. The responsibility and expense to provide this protection shall be the Contractor's.
- K. Access: Material excavated from trenches and pits shall be piled adjacent to the trench shall be maintained so that the toe of the slope is at least 2 feet from the edge of the trench. The Contractor shall maintain access to fire hydrants and positive drainage in gutters, conduits, or natural watercourses.

3.07 PREPARATION FOR UTILITY PLACEMENT

- A. Cut out soft areas of subgrade not capable of compaction in place per paragraph 3.09 and backfill with gravel backfill.
- B. Compact subgrade to 95 percent maximum density to form a firm unyielding base for bedding material.
- C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

3.08 TRENCH BACKFILL MATERIALS

- A. Material used for trench backfill shall be clean, free-draining, sandy gravel or gravelly sand obtained from natural deposits and as specified in paragraph 2.06.
- B. Native soils excavated may be tested and re-used for trench backfill providing the materials meet grading, density compaction requirements, and characterization contained herein.

3.09 BACKFILLING AND COMPACTION TO GRADE

- A. Contractor shall backfill to contours and elevations indicated using unfrozen materials.
- B. Contractor shall place fill, compact, and grade to subgrade elevations unless otherwise indicated.
- C. Contractor shall employ a placement method that does not disturb or damage other work.

- D. Contractor shall systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen, or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Granular Fill: When specified, place and compact materials in equal continuous layers not exceeding 6 inches compacted depth and compacted to 95 percent maximum dry density.
- G. Soil Fill: When specified, place and compact material in equal continuous layers not exceeding 6 inches compacted depth and compacted to 95 percent maximum dry density.
- H. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Contractor shall correct areas that are over-excavated.
 - 1. Thrust bearing surfaces: Fill with concrete.
 - 2. Other areas: Use general fill, make flush to required elevation as directed by the Engineer and compact to a minimum 95 percent of maximum dry density.
 - 3. Compaction Density Unless Otherwise Specified or Indicated shall be 95 percent of maximum dry density.
- J. Contractor shall reshape and re-compact fills subjected to vehicular traffic as directed by the Engineer.
- K. Gravel backfill used to backfill trenches over four feet deep which have been laid back beyond the neat line vertical trench limits specified above will be placed at no cost to the Port.
- L. Backfill above the pipe zone shall be accomplished in such a manner that the pipe will not be shifted out of position nor damaged by impact or overloading. If pipe is being placed in a new embankment, the embankment shall be constructed, the trench cut in, and bedding, and backfill placed accordingly. Backfill shall be placed in horizontal layers no more than 6 inches thick and compacted to 95 percent maximum density.
- M. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.
- N. Verify structural ability of unsupported walls to support imposed loads by the fill.
- O. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

3.10 PIPE ZONE BEDDING AND COMPACTION

- A. Pipe zone bedding and backfill shall be placed per manufacturer's recommendations and placed in loose layers and compacted to 90 percent maximum density. Bedding shall be placed, spread, and compacted before the pipe is installed so that the pipe is uniformly supported along the barrel. Lifts of not more than 6 inches in thickness shall be placed and compacted along the sides of the pipe per manufacturer's recommendations.

3.11 BEDDING AND FILL AT SPECIFIC LOCATIONS

- A. Use general fill (common borrow or Gravel Backfill) unless otherwise specified or indicated.
 - 1. Compact in maximum 8 inch lifts to 95 percent of maximum dry density.
- B. At French Drains (Underdrains):
 - 1. Use granular fill material (Gravel Backfill for Drains).
 - 2. Compact to 95 percent of maximum dry density.

3.12 FILL AND BACKFILL FOR STRUCTURES AND UTILITIES

- A. All underground structures including manholes, catch basins, oil/water separators, flow splitters, vaults, and/or other structures, shall be over excavated by one foot. The subgrade shall be prepared, and a minimum of 6 inches of Gravel Backfill for Foundations Class A shall be placed and compacted. An additional 6 inch minimum layer of Crushed Surfacing Base Course shall be placed and compacted for all underground structures.
- B. Place backfill and structural backfill to lines and grades indicated on the Drawings.
- C. Remove water from excavated areas, by pumping or other means, before placing any fill material.
- D. Compact subgrade, as specified in paragraph 3.15, before placing any fill material.
- E. Do not place any fill against concrete walls/structures until the concrete has attained its specified design strength and/or certain other construction sequence criteria, if noted on the drawings, are met, or as specifically approved by the Port.
- F. Place fill in layers not exceeding 12 inches (loose thickness) and compact to at least 95% of dry density (ASTM D 1557).

3.13 PROTECTION

- A. Contractor shall perform all excavation, trenching, and backfill to prevent displacement of banks and keep loose soil from falling into excavations. Contractor shall provide dewatering and shoring to maintain soil stability.
- B. Contractor shall protect the bottom of excavations and soil

3.14 FILLING AND COMPACTING EMBANKMENTS

- A. Embankment Compaction (Filling): Place material used for the construction of embankment in horizontal layers upon earth which has been stabilized or otherwise approved by the Engineer for embankment construction.
- B. Irrespective of the method of compaction specified, at the time of compaction the moisture content of that portion of the embankment material passing a U.S. No. 4 sieve shall be not more than three (3) percentage points above or below the optimum moisture content at

100% density as determined by Compaction Control Density Tests, described in Article "Compaction Control Tests" these specifications.

- C. Construct earth embankment in compacted layers of uniform thickness. Carry the layers up full width from the bottom of the embankment. Compact the slopes of all embankments to the required density as part of the embankment compaction work. The embankment shall be compacted with modern, efficient compacting units satisfactory to the Engineer. The compacting units may be of any type, provided they are capable of compacting each lift of the material to the specified density. The right is reserved for the Engineer to order the use of any particular compacting unit discontinued if it is not capable of compacting the material to the required density within a reasonable time, or if the equipment may damage underlying or adjacent soils or structures.
- D. Construct earth embankments in successive horizontal layers not exceeding 4 inches in loose thickness except that the layers in the top 2-feet shall not exceed 2-inches in loose thickness. Compact each layer of the top 2-feet of embankment to 95% and each layer of embankment below the top 2-feet to 90% of the maximum density as determined by compaction control tests. Use small mechanical or vibratory compactor units to compact the layers adjacent to structures that are inaccessible to the loaded haul equipment or other compaction rollers.

3.15 SUBGRADE PREPARATION

- A. Preparation of Subgrade: Immediately prior to placement of surfacing materials, clean the entire width of the area of all debris and dispose of as directed by the Engineer. All depressions or ruts which contain storm water shall be drained.

Shape the entire subgrade to a smooth uniform surface, true to line, grade, and cross section. The Contractor shall provide any crown and grade stakes required for drainage. Compact subgrade for pavement to 95% of maximum density as defined for Compaction Control Density paragraph 3.21 "Compaction Control Tests" in these specifications, to a minimum depth of 6 inches and to a width that will accommodate the paving equipment. If soft or spongy material underlying the upper 6 inches of the area being prepared precludes satisfactory compaction of the upper twelve inches, loosen, aerate, or excavate, replace and compact to the required density as directed by the Engineer.

The prepared subgrade shall be proof-rolled in the presence of the Engineer or their representative. Unsuitable areas shall be re-compacted or excavated and replaced or allowed to dry and re-compacted as directed by the Engineer.

Remove and dispose of excess material which cannot be disposed of by normal drifting to low spots during blading and shaping operations or by placing in subgrade areas deficient in materials or by wasting, all as directed by the Engineer. Subgrade areas deficient in materials shall be brought to grade by importing suitable materials from other subgrade areas or other sources as directed by the Engineer. Materials added to subgrade areas deficient in materials shall be watered and compacted as necessary to yield a true finished subgrade as described above.

Once it is prepared, maintain the subgrade for surfacing in the finished condition until the first course of surfacing has been placed.

- B. Finishing Subgrades: Before any paving material is placed, the subgrade shall be brought to the proper line, grade and cross section and shall be so maintained until the base course and paving is placed, except that extra depth of subgrade for increased thickness of the pavement, for pavement anchors, for pavement headers, and for increased thickness at the edges of the pavement may be removed just before the pavement is placed.
- C. Subgrade Protection: Take all precautions necessary to protect the subgrade from damage; hauling over the finished subgrade shall be limited to that which is essential for construction purposes. Equipment used for hauling over the prepared subgrade which, in the opinion of the Engineer, is causing undue damage to the prepared subgrade or to the underlying materials, shall be removed from the work at the request of the Engineer. Repair at the Contractor's expense all cuts, ruts and breaks in the surface of the subgrade prior to placing surfacing, treated base, or paving materials. Protect the prepared subgrade from both the Contractor's traffic and public traffic and maintain the subgrade by blading and rolling as frequently as may be necessary to preserve the subgrade in a completely satisfactory condition
- D. The limits of subgrade preparation shall be as directed by the Engineer, or shall be from the edge of pavement to edge of pavement and shall extend the entire length of the paved area or roadway. On curb and gutter streets, the limits shall be from the edge of gutter to edge of gutter.

3.16 SUBGRADE RECONDITIONING

- A. Where approved compacted subgrades are disturbed by the Contractor's subsequent operations or adverse weather, scarify the subgrades and compact to the required density prior to further construction thereon.

3.17 SUBGRADE SURFACE MAINTENANCE

- A. Leave the surface free of stones or debris and wet as necessary for dust control. Maintain the surface until final treatment is applied.

3.18 ROUGH GRADING

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- D. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- E. When excavating through roots, perform work by hand and cut roots with sharp axe.
- F. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key fill material to slope for firm bearing.
- G. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

3.19 FINISH GRADING

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- A. Before Finish Grading:
 - 1. Verify building and trench backfilling have been inspected.
 - 2. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.
- C. Where topsoil is to be placed, scarify surface to depth of 3 inches.
- D. Lightly compact placed topsoil.

3.20 TOLERANCES

- A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.
- B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.21 COMPACTION CONTROL TESTS

Laboratory and field tests shall be performed in accordance with the applicable provisions of these Specifications.

- A. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D2922, or ASTM D3017.
- B. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor"), ASTM D 1557 ("modified Proctor") Methods B, C, or D as applicable, or AASHTO T 180.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.22 CLEANING

- A. Leave unused materials in a neat, compact stockpile, or remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.23 EXCESS MATERIAL DISPOSAL

- A. All materials to be demolished or excavated, and which are to be disposed of off of Port property shall be managed in accordance with Section 00 72 00 General Conditions paragraph 3.08.

3.24 ADJUST MANHOLE, CATCH BASIN, OR HATCH

- A. The Contractor shall adjust existing manholes, catch basins, inlets, vault covers, or hatches to grade as staked or otherwise designated by the Engineer.

- B. The existing cast iron ring and cover on manholes and the catch basin and inlet frame and grate shall first be removed and thoroughly cleaned for reinstallation at a new elevation.
- C. The cover or gratings shall not be grouted to final grade until the final elevation of the pavement, gutter, ditch, or sidewalk in which it is to be placed has been established. Non-shrink grout shall be used for connections and modifications to the structures.
- D. Covers shall be seated firmly without rocking and ladders and rungs shall be adjusted accordingly to provide access through the cover.
- E. Catch basins, manholes, inlets, and vaults shall be watertight and backfilling shall be performed according to paragraph 3.12.

3.25 SURVEY

- A. When directed by the Engineer, the Contractor shall establish control in the project vicinity.
- B. When directed by the Engineer, excavations that involve hauling soil, aggregate, or other materials, from a Port site and stockpiling at another Port stockpile site without obtaining a truck weigh scale ticket, the Contractor shall provide survey prior to excavation, and after excavation to establish the volume of material excavated.
- C. When directed by the Engineer, the contractor shall establish existing grades, flow lines, rim elevations, inverts and other features prior to excavation and shall establish final grades to drain and match existing conditions.
- D. Survey tasks shall be performed using Port standards. Digital files including base maps, digital terrain models, and boundary/control drawings shall be provided to the Port.

3.26 GEOSYNTHETIC MATERIAL

- A. When directed by the Engineer, the Contractor shall install geogrid material to stabilize the subgrade or base aggregate materials. The Contractor shall, backfill, and compact the aggregate layer containing the geogrid according to the Manufacturer's recommendations. As specified herein, geogrid material shall not be used for reinforced slopes or retaining walls.

3.27 REMOVAL AND ABANDONING EXISTING UNDERGROUND UTILITIES

- A. All buried piping, manholes, vaults, foundations or other subsurface structures that are identified on the drawings, or encountered during construction, including portions of same, shall be demolished and removed.
- B. Manholes to be removed shall be demolished to at least two feet below existing grade, and the bottom of the structure shall be broken up so that the structure retains no water. The structure shall be backfilled with gravel borrow.
- C. Storm drains, oil/water separators, wells, and mains that are to remain functional shall be protected from the infiltration of debris and silts.

- D. Pipes 6 inches and under may be cut and capped or plugged in place. The pipe shall be completely plugged with a pipe cap or with cement concrete, Class 3000 for a minimum length of 12 inches with no voids.
- E. Pipes over 6 inches shall be removed or filled with controlled density fill “flowable fill” and abandoned in place. Controlled Density Fill “Flowable Fill”.

3.28 PLACING ASPHALT CONCRETE PAVEMENT

- A. The Contractor shall sawcut, remove, and excavate pavement repair areas and shall compact the subgrade, prepare the base, and backfill with asphalt concrete pavement. The Contractor shall conduct the excavation operations in a manner that will protect the pavement that is to remain. Pavement not designated to be removed that is damaged as a result of the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Port at no extra cost to the Port. At a minimum, the depth of pavement placed shall match the adjacent pavement thickness. The finished surface shall be free of tearing, raveling, desegregation, or other blemishes.
- B. Hauling equipment shall have tight, clean, smooth metal beds and shall have a canvas cover or other suitable cover material of sufficient size to protect the mixture from adverse weather.
- C. Hot mix pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in the designated areas. Manual operation of the screed will only be permitted in the construction of irregularly shaped and minor areas.
- D. The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevations established. Paving machines shall be used to spread the mixture and unless otherwise directed, the nominal compacted depth of any layer of any course shall not exceed the following:

Class B Asphalt Concrete Pavement (0.35 feet Max.)

Class B Asphalt Concrete Pavement (0.15 feet Min.)

- E. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the paving may be done with other equipment or by hand.
- F. Immediately after the asphalt concrete pavement has been spread and struck off, and after irregularities have been adjusted, the mix shall be thoroughly and uniformly compacted. The completed course shall be free from ridges, ruts, humps, depressions, objectionable marks, checking, cracking, and irregularities. Compaction shall take place with rollers unless the area is not accessible in which mechanical hand tampers may be used.
- G. Contractor shall be responsible for providing an independent materials testing and compaction testing certification to the Port.

3.29 PLACING PORTLAND CONCRETE PAVEMENT

- A. The Contractor shall sawcut, remove, and excavate pavement repair areas and shall compact the subgrade, prepare the base, and backfill with asphalt concrete pavement. The Contractor shall conduct the excavation operations in a manner that will protect the pavement that is to remain. Pavement not designated to be removed that is damaged as a result of the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Port at no extra cost to the Port. At a minimum, the depth of pavement placed shall match the adjacent pavement thickness. The finished surface shall be free of tearing, raveling, desegregation, or other blemishes.
- B. Sawcutting and placement of concrete shall be planned to match existing joints and prevent leaving small slivers, angles, and/or narrow pieces in place.
- C. Forms shall be set sufficiently in advance of concrete placement to ensure that no interruption to the paving operation occurs. Forms shall be checked for alignment and profile, and corrections shall be made immediately prior to placement of concrete.
- D. Forms shall be set and placed so they resist the forces applied during placement and finishing of the concrete. Forms shall be cleaned and oiled or waxed prior to placement of the concrete.
- E. Slip form pavers may be used in lieu of stationary side forms. The Contractor shall adjust the cement mix as necessary for cast in place concrete applications verses slip form pavement applications. Slip form pavers shall be fully energized, self propelled, and designed for the specific purpose of placing, consolidating, and finishing concrete pavement, true to grade, tolerance and cross-section. The paver should be equipped with electronic or hydraulic horizontal and vertical control devices.
- F. Batching, Mixing, and Transporting Concrete
 - 1. The batch plant site, layout, equipment, and provisions for transporting material shall assure a continuous supply of material to the work. Stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials.
 - 2. Aggregates that have become segregated or mixed with earth or foreign material shall not be used. All aggregates produced or handled by hydraulic methods, and washed aggregates, shall be stockpiled or binned for draining at least 12 hours before being batched.
 - 3. Batching plants shall be equipped to proportion aggregates and bulk cement, by weight, automatically using interlocked proportioning devices of an approved type. When bulk cement is used, the Contractor shall use a suitable method of handling the cement from weighing hopper to transporting container or into the batch itself for transportation to the mixer, such as a chute, boot, or other approved device, to prevent loss of cement. The device shall be arranged to provide positive assurance that the cement content specified is present in each batch.
- G. Mixing Concrete
 - 1. The concrete may be mixed at the work site, in a central mix plant or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time all materials, except water, are emptied into the drum. All

concrete shall be mixed and delivered to the site in accordance with the requirements of ASTM C 94.

2. Mixed concrete from the central mixing plant shall be transported in truck mixers or truck agitators. The elapsed time from the addition of cementitious material to the mix until the concrete is deposited in place at the work site shall not exceed 60 minutes when the concrete is hauled in truck mixers or truck agitators. Re-tempering concrete by adding water or by other means will not be permitted.

H. Placing Concrete

1. The Contractor has the option of placing the concrete with either side (fixed) forms or slip-forms. At any point in concrete conveyance, the free vertical drop of the concrete from one point to another or to the underlying surface shall not exceed 3 feet. Backhoes and grading equipment shall not be used to distribute the concrete in front of the paver. Front end loaders will not be used unless the contractor demonstrates that they can be used without contaminating the concrete and base course and it is approved by the Engineer.
2. Hauling equipment or other mechanical equipment can be permitted on adjoining previously constructed pavement when the concrete strength reaches a flexural strength of 550 psi based on the average of four field cured specimens per 2,000 cubic yards of concrete placed. Also, subgrade and sub-base planers, concrete pavers, and concrete finishing equipment may be permitted to ride upon the edges of previously constructed pavement when the concrete has attained a minimum flexural strength of 400 psi.
3. Slip-Form Construction: The concrete shall be distributed uniformly into final position by a self-propelled slip-form paver without delay. The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose. The paver shall vibrate the concrete for the full width and depth of the strip of pavement being placed and the vibration shall be adequate to provide a consistency of concrete that will stand normal to the surface with sharp well defined edges. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms.
4. The plastic concrete shall be effectively consolidated by internal vibration with transverse vibrating units for the full width of the pavement and/or a series of equally placed longitudinal vibrating units. The space from the outer edge of the pavement to longitudinal unit shall not exceed 9 inches. The spacing of internal units shall be uniform and shall not exceed 18 inches.
5. The term internal vibration means vibrating units located within the specified thickness of pavement section.
6. The rate of vibration of each vibrating unit shall be within 8000 to 12000 cycles per minute and the amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete along the entire length of the vibrating unit for a distance of at least one foot. The frequency of vibration or amplitude shall vary proportionately with the rate of travel to result in a uniform density and air content. The paving machine shall be equipped with a tachometer or other suitable device for measuring and indicating the actual frequency of vibrations.

7. The concrete shall be held at a uniform consistency. The slip-form paver shall be operated with as nearly a continuous forward movement as possible. And all operations of mixing, delivering, and spreading concrete shall be coordinated to provide uniform progress with stopping and starting of the paver held to a minimum. If for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.
8. When concrete is being placed adjacent to an existing pavement, that part of the equipment which is supported on the existing pavement shall be equipped with protective pads on crawler tracks or rubber-tired wheels on which the bearing surface is offset to run a sufficient distance from the edge of the pavement to avoid breaking the pavement edge.
9. Side-Form Construction: Side form sections shall be straight, free from warps, bends, indentations, or other defects. Defective forms shall be removed from the work. Metal side forms shall be used except at end closures and transverse construction joints where straight forms of other suitable material may be used.
10. Side forms may be built up by rigidly attaching a section to either top or bottom of forms. If such build-up is attached to the top of metal forms, the build-up shall also be metal.
11. Width of the base of all forms shall be equal to at least 80 percent of the specified pavement thickness.
12. Side forms shall be of sufficient rigidity, both in the form and in the interlocking connection with adjoining forms, that springing will not occur under the weight of subgrading and paving equipment or from the pressure of the concrete. The Contractor shall provide sufficient forms so that there will be no delay in placing concrete due to lack of forms.
13. Before placing side forms, the underlying material shall be at the proper grade. Side forms shall have full bearing upon the foundation throughout their length and width of base and shall be placed to the required grade and alignment of the finished pavement. They shall be firmly supported during the entire operation of placing, compacting, and finishing the pavement.
14. Forms shall be drilled in advance of being placed to line and grade to accommodate tie bars where these are specified.
15. Immediately in advance of placing concrete and after all subbase operations are completed, side forms shall be trued and maintained to the required line and grade for a distance sufficient to prevent delay in placing.
16. Side forms shall remain in place at least 12 hours after the concrete has been placed, and in all cases until the edge of the pavement no longer requires the protection of the forms. Curing compound shall be applied to the concrete immediately after the forms have been removed.
17. Side forms shall be thoroughly cleaned and oiled each time they are used and before concrete is placed against them.

18. Concrete shall be spread, screeded, shaped and consolidated by one or more self-propelled machines. These machines shall uniformly distribute and consolidate concrete without segregation so that the completed pavement will conform to the required cross section with a minimum of handwork.
19. The number and capacity of machines furnished shall be adequate to perform the work required at a rate equal to that of concrete delivery.
20. Concrete for the full paving width shall be effectively consolidated by internal vibrators without causing segregation. Internal type vibrators' rate of vibration shall be not less than 7,000 cycles per minute. Amplitude of vibration shall be sufficient to be perceptible on the surface of the concrete more than one foot from the vibrating element. The Contractor shall furnish a tachometer or other suitable device for measuring and indicating frequency of vibration.
21. Power to vibrators shall be connected so that vibration ceases when forward or backward motion of the machine is stopped.
22. The provisions relating to the frequency and amplitude of internal vibration shall be considered the minimum requirements and are intended to ensure adequate density in the hardened concrete.
23. Following the placing of the concrete, it shall be struck off to conform to the cross section shown on the plans and to an elevation such that when the concrete is properly consolidated and finished, the surface of the pavement shall be at the elevation shown on the plans. When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of reinforcing steel fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off, and screeded. If any portion of the bottom layer of concrete has been placed more than 30 minutes without being covered with the top layer or if initial set has taken place, it shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete by mechanical or vibratory means after spreading.
24. Planning: Place concrete continuously between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

I. Cold Weather

1. Cold Weather. Unless authorized in writing by the Engineer, mixing and concreting operations shall be discontinued when a descending air temperature in the shade and away from artificial heat reaches 40 degrees F and shall not be resumed until an ascending air temperature in the shade and away from artificial heat reaches 35 degrees F.
2. The aggregate shall be free of ice, snow, and frozen lumps before entering the mixer. The temperature of the mixed concrete shall not be less than 50 degrees F at the time of placement. Concrete shall not be placed on frozen material nor shall frozen aggregates be used in the concrete.

3. When concreting is authorized during cold weather, water and/or the aggregates may be heated to not more than 150 degrees F. The apparatus used shall heat the mass uniformly and shall be arranged to preclude the possible occurrence of overheated areas which might be detrimental to the materials.
4. Hot Weather. During periods of hot weather when the maximum daily air temperature exceeds 85 degrees F, the following precautions shall be taken:
 - a. The forms and/or the underlying surface shall be sprinkled with water immediately before placing the concrete. The concrete shall be placed at the coolest temperature practicable, and in no case shall the temperature of the concrete when placed exceed 90 degrees F. The aggregates and/or mixing water shall be cooled as necessary to maintain the concrete temperature at or not more than the specified maximum.
 - b. The finished surfaces of the newly laid pavement shall be kept damp by applying a water-fog or mist with approved spraying equipment until the pavement is covered by the curing medium. If necessary, wind screens shall be provided to protect the concrete from an evaporation rate in excess of 0.2 psf per hour as determined in accordance with Figure 2.1.5 in ACI 305R, Hot Weather Concreting, which takes into consideration relative humidity, wind velocity, and air temperature.
 - c. When conditions are such that problems with plastic cracking can be expected, and particularly if any plastic cracking begins to occur, the Contractor shall immediately take such additional measures as necessary to protect the concrete surface. Such measures shall consist of wind screens, more effective fog sprays, and similar measures commencing immediately behind the paver. If these measures are not effective in preventing plastic cracking, paving operations shall be immediately stopped.
5. Records: Maintain records of placement activities.

J. Joints

1. The Contractor shall develop a joint plan prior to paving according to phasing, means, and methods to ensure concrete will not crack, break, chip, or otherwise fail due to expansion, contraction, or otherwise. The Contractor shall install joint fillers and seal all joints.
2. Reinforcing steel, at the time concrete is placed, shall be free of mud, oil, or other organic matter that may adversely affect or reduce bond. Reinforcing steel with rust, mill scale or a combination of both will be considered satisfactory, provided the minimum dimensions, weight, and tensile properties of a hand wire-brushed test specimen are not less than the applicable ASTM specification requirements.
3. Compaction: The concrete at joints shall be thoroughly compacted without the formation of voids or segregation around or under the bars. Joints: Ensure tiebars, dowels, embedded items, formed expansion joints and contraction joints are not disturbed by the wet concrete during placing.
4. Joints shall be true to line with not more than 1/4-inch variation in 10 feet. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth.

Joints shall be at least 1/8" wide for 1/3 the depth of the concrete panel and at least 3/8" wide for 1/4 the depth of the panel. The joint shall be filled with backer rod and sealed.

5. Saw cutting: Saw-cut joints shall be completed before formation of any shrinkage cracking, but not later than twelve hours from the time of concrete placement. Cut joints in the sequence of placing the concrete. Cut joints to the widths and depths noted in line 4. Ragged cuts, raveling and or random cracking will not be permitted.
6. Longitudinal construction joints shall be slip-formed or formed against side forms with or without keyways.
7. Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.
8. Contraction joints shall be installed at the locations and spacing to match adjacent panels. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Grooving or sawing shall produce a slot at least 1/8 inch wide and 1/3 the depth of the concrete panel.
9. Expansion joints shall be installed. The pre-molded filler of the thickness shall extend for the full depth and width of the slab at the joint, except for space for sealant at the top of the slab. The filler shall be securely staked or fastened into position perpendicular to the proposed finished surface. A cap shall be provided to protect the top edge of the filler and to permit the concrete to be placed and finished. After the concrete has been placed and struck off, the cap shall be carefully withdrawn leaving the space over the premolded filler. The edges of the joint shall be finished and tooled while the concrete is still plastic. Any concrete bridging the joint space shall be removed for the full width and depth of the joint.
10. Keyways (only female keys permitted) shall be formed in the plastic concrete by means of side forms or the use of keyway liners that are inserted during the slip-form operations. The keyway shall be formed to a tolerance of 1/4 inch (6 m) in any dimension and shall be of sufficient stiffness to support the upper keyway flange without distortion or slumping of the top of the flange. The dimensions of the keyway forms shall not vary more than plus or minus 1/4 inch from the mid-depth of the pavement. Liners that remain in place permanently and become part of the keyed joint shall be made of galvanized, copper clad, or of similar rust-resistant material compatible with plastic and hardened concrete and shall not interfere with joint reservoir sawing and sealing.

K. Concrete Finishing

1. Sequence. The sequence of operations shall be the strike-off, floating and removal of laitance, straight edging, and final surface finish. The addition of superficial water to the surface of the concrete to assist in finishing operations will not be permitted.
2. Finishing at Joints. The concrete adjacent to joints shall be compacted or firmly placed without voids or segregation against the joint material; it shall be firmly placed without voids or segregation under and around all load-transfer devices, joint assembly units, and other features designed to extend into the pavement. Concrete adjacent to joints shall be mechanically vibrated. After the concrete has been placed and vibrated adjacent to the joints, the finishing machine shall be operated in a manner to avoid damage or misalignment of joints. If uninterrupted operations of the finishing machine, to, over, and beyond the joints, cause segregation of concrete, damage to, or misalignment of the joints, the finishing machine shall be stopped when the screed is approximately 8 inches from the joint. Segregated concrete shall be removed from the front of and off the joint; and the forward motion of the finishing machine shall be resumed. Thereafter, the finishing machine may be run over the joint without lifting the screed, provided there is no segregated concrete immediately between the joint and the screed or on top of the joint.
3. Machine Finishing. The concrete shall be spread as soon as it is placed, and it shall be struck off and screeded by a finishing machine. The machine shall go over each area as many times and at such intervals as necessary to give to proper consolidation and to leave a surface of uniform texture. Excessive operation over a given area shall be avoided. When side forms are used, the tops of the forms shall be kept clean by an effective device attached to the machine, and the travel of the machine on the forms shall be maintained true without lift, wobbling, or other variation tending to affect the precision finish. During the first pass of the finishing machine, a uniform ridge of concrete shall be maintained ahead of the front screed for its entire length. When in operation, the screed shall be moved forward with a combined longitudinal and transverse shearing motion, always moving in the direction in which the work is progressing, and so manipulated that neither end is raised from the side forms during the striking-off process. If necessary, this shall be repeated until the surface is of uniform texture, true to grade and cross section, and free from porous areas.
4. Hand Finishing. Hand finishing methods will not be permitted, except under the following conditions: in the event of breakdown of the mechanical equipment, hand methods may be used to finish the concrete already deposited on the grade; in areas of narrow widths or of irregular dimensions where operation of the mechanical equipment is impractical. Concrete, as soon as placed, shall be struck off and screeded. An approved portable screed shall be used. A second screed shall be provided for striking off the bottom layer of concrete when reinforcement is used.
5. The screed for the surface shall be a least 2 feet longer than the maximum width of the slab to be struck off. It shall be of approved design, sufficiently rigid to retain its shape, and shall be constructed either of metal or of other suitable material covered with metal. Consolidation shall be attained by the use of suitable vibrators.
6. Floating. After the concrete has been struck off and consolidated, it shall be further smoothed and trued by means of a longitudinal float using one of the following methods:
 - a. Hand Method. Long-handled floats shall not be less than 12 feet in length and 6 inches in width, stiffened to prevent flexibility and warping. The float shall be

operated from foot bridges spanning but not touching the concrete or from the edge of the pavement. Floating shall pass gradually from one side of the pavement to the other. Forward movement along the centerline of the pavement shall be in successive advances of not more than one-half the length of the float. Any excess water or laitance in excess of 1/8-inch thick shall be removed and wasted.

- b. Mechanical method. The Contractor may use a machine composed of a cutting and smoothing float(s), suspended from and guided by a rigid frame and constantly in contact with, the side forms or underlying surface. If necessary, long-handled floats having blades not less than 5 feet in length and 6 inches in width may be used to smooth and fill in open-textured areas in the pavement. When the crown of the pavement will not permit the use of the mechanical float, the surface shall be floated transversely by means of a long-handled float. Care shall be taken not to work the crown out of the pavement during the operation. After floating, any excess water and laitance in excess of 1/8-inch thick shall be removed and wasted. Successive drags shall be lapped one-half the length of the blade.
7. After the pavement has been struck off and while the concrete is still plastic, the Contractor shall check the surface is smooth and matches existing surface. Any excess water and laitance in excess of 1/8-inch thick shall be removed from the surface of the pavement and wasted. Any depressions shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints. Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and until the slab conforms to the required grade and cross section. The use of long-handled wood floats shall be confined to a minimum; they may be used only in emergencies and in areas not accessible to finishing equipment.
8. Surface Texture. The surface of the pavement shall be finished with either a brush or broom, burlap drag, or artificial turf finish for all newly constructed concrete pavements. It is important that the texturing equipment not tear or unduly roughen the pavement surface during the operation. Any imperfections resulting from the texturing operation shall be corrected to the satisfaction of the Engineer.
 - a. Brush or Broom Finish. If the pavement surface texture is to be a type of brush or broom finish, it shall be applied when the water sheen has practically disappeared. The equipment shall operate transversely across the pavement surface, providing corrugations that are uniform in appearance and approximately 1/16 of an inch in depth.
 - b. Burlap Drag Finish. If a burlap drag is used to texture the pavement surface, it shall be at least 15 ounces per square yard. To obtain a textured surface, the transverse threads of the burlap shall be removed approximately 1 foot from the trailing edge. A heavy buildup of grout on the burlap threads produces the desired wide sweeping longitudinal striations on the pavement surface. The corrugations shall be uniform in appearance and approximately 1/16 of an inch in depth.
9. Finish edges of joints with an edger having a radius of 1/4 in.

L. Curing and Protection

1. General: Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures and mechanical injury. Protect unhardened concrete from the effects/damage of rain and wind.
2. Curing compound: Apply one coat of curing compound on exposed surfaces of concrete immediately after finishing and maintain for at least 14 days.
3. Re-Application: Apply a second coat of curing compound within a period of 4 hours of finishing. The total coverage for the two coats shall be as recommended by the manufacturer and in no case more than 200 sq. ft. per gallon of undiluted compound. The compound shall form a uniform, continuous, coherent film that will not check, crack, or peel.
4. Vertical Surfaces: After removal of forms, and after saw cutting apply curing compound to vertical faces of slab and maintain until the end of the 14 day curing period.
5. Protection: Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of the concrete. Protect concrete from freezing until it is thoroughly cured.
6. Damaged Film: Reapply curing compound where film is damaged by rain or construction activities.
7. Trafficking: All traffic and equipment, except saw cutting equipment, shall be excluded from the newly constructed pavement until the concrete has attained a compressive strength of at least 3,500 psi substantiated by testing, and in no case earlier than 72 hours after finishing.

M. Tolerances

1. Forms: Plus or minus 1/4-inch. horizontal alignment from a straight line.
2. Thickness: Plus 1/2-inch or minus 1/4-inch.
3. Smoothness: No deviation greater than 1/4-inch when tested with a straight edge.
4. Joints: Plus or minus 1/4-inch horizontal alignment from a straight line when tested with a 12 ft. straight edge.
5. Dowel Bars: plus or minus 1/2-inch from position in horizontal and vertical spacing. Mid- point of bar shall be within 1 in. of joint face and alignment shall be within 1 percent.

N. Acceptance Testing

1. The Contractor shall have obtain an independent testing lab to provide tests for concrete if requested by the Port Engineer. The laboratory will perform tests for the purposes of controlling and verifying Contractor work. Tests shall include slump tests

and beam breaks to demonstrate that the concrete has reached strength requirements at 7 days, 14 days, and 28 days.

2. Activities of the testing agent shall not relieve the Contractor of responsibility for providing contractor quality control.

O. Patching and Repair

1. Defective Concrete: Concrete not conforming to the lines, details, dimensions, tolerances or specified requirements shall be deemed to be defective. Excessive honey-combing or embedded debris in the concrete is not acceptable. The extent of repair or replacement of defective concrete will be determined by the Engineer.
2. Patching: Where directed, spalls along joints of new slabs, and along parallel cracks used as replacement joints, shall be repaired by first making a vertical saw cut at least 1 inch outside the spalled area and to a depth of at least 2 inches. Saw cuts shall be straight lines forming rectangular areas. The concrete between the saw cut and the joint, or crack, shall be chipped out to remove all unsound concrete and at least 1/2 inch of visually sound concrete. The cavity thus formed shall be thoroughly cleaned with high-pressure water jets supplemented with compressed air to remove all loose material. Immediately before filling the cavity, a prime coat of epoxy resin, Type III, Grade I, shall be applied to the dry cleaned surface of all sides and bottom of the cavity, except any joint face. The prime coat shall be applied in a thin coating and scrubbed into the surface with a stiff-bristle brush. Pooling of epoxy resin shall be avoided. The cavity shall be filled with low slump Portland cement concrete or mortar or with epoxy resin concrete or mortar. Concrete shall be used for larger spalls, generally those more than a 1/2 cu. ft. in size, and mortar shall be used for the smaller ones. Any spall less than 0.1 cu. ft. shall be repaired only with epoxy resin mortar or a Grade III epoxy resin. Portland cement concrete and mortar mixtures shall be proportioned as directed and shall be mixed, placed, consolidated, and cured as directed. Epoxy resin mortars shall be made with Type III, Grade 1, epoxy resin, using proportions and mixing and placing procedures as recommended by the manufacturer and approved by the Engineer. The epoxy resin materials shall be placed in the cavity in layers not over 2 inches thick. The time interval between placement of additional layers shall be such that the temperature of the epoxy resin material does not exceed 140°F (60°C) at any time during hardening. Mechanical vibrators and hand tampers shall be used to consolidate the concrete or mortar. Any repair material on the surrounding surfaces of the existing concrete shall be removed before it hardens. Where the spalled area abuts a joint, an insert or other bond-breaking medium shall be used to prevent bond at the joint face. A reservoir for the joint sealant shall be sawed to the dimensions required for other joints, or as required to be routed for cracks. The reservoir shall be thoroughly cleaned and sealed with the sealer specified for the joints. If any spall penetrates half the depth of the slab or more, the entire slab shall be removed and replaced as previously specified.
3. Replacement: Any random cracking or other defects determined to be detrimental to the concrete pavement, by the Engineer, shall be removed and replaced at the Contractor's expense. Any area removed shall not be less than 10 ft. in length nor less than the full width of the paving lane.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

- A. The work covered by this Section includes the furnishing of all labor, materials, equipment and necessary services to construct asphalt pavements to the sections and at the locations as specified in this Section and as indicated on the Contract Drawings.
- B. The materials specified herein are intended primarily for use in repairing small areas and performing emergency repairs under inclement weather conditions.

1.02 RELATED SECTIONS

- A. Section 01 33 00 - Submittal Procedures
- B. Section 01 45 00 - Quality Control
- C. Section 31 00 00 - Earthwork

1.03 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. Unless otherwise indicated, the most recent edition of the publication, including any revisions, shall be used.
- C. American Association of State Highway and Transportation Officials (AASHTO)
 - 1. AASHTO M 17 – (2011) Mineral Filler for Bituminous Paving Mixtures
 - 2. AASHTO M 320 – (2010) Performance-Graded Asphalt Binder
 - 3. AASHTO T 11 - (2005; R2009) Materials Finer Than 75 mm (No. 200) Sieve in Mineral Aggregates by Washing
 - 4. AASHTO T 27 - (2011) Sieve Analysis of Fine and Coarse Aggregates
 - 5. AASHTO T 89 - (2013) Determining the Liquid Limit of Soils
 - 6. AASHTO T 90 - (2000; R2008) Determining the Plastic Limit and Plasticity Index of Soils
 - 7. AASHTO T 96 - (2002; R2010) Resistance to Degradation of Small-Size Coarse Aggregate and Impact in the Los Angeles Machine
 - 8. AASHTO T 104 - (1999; R2011) Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
 - 9. AASHTO T 112 - (2000; R2012) Clay Lumps and Friable Particles in Aggregate

10. AASHTO T164 - (2011) Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)
11. AASHTO T 176 - (2008) Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test
12. AASHTO T 283 - (2007; R2011) Resistance of Compacted Hot-Mix Asphalt (HMA) Mixtures to Moisture-Induced Damage
13. AASHTO T 304 - (2011) Uncompacted Void Content of Fine Aggregate
14. AASHTO T308 - (2010) Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
15. AASHTO T 335 - (2009) Determining the Percentage of Fracture in Coarse Aggregate

D. American Society for Testing and Materials (ASTM)

1. ASTM D75 – (2009) Sampling Aggregates
2. ASTM D242 – (2009) Mineral Filler for Bituminous Paving Mixtures
3. ASTM D4791 - (2010) Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

E. Washington State Department of Transportation (WSDOT)

1. Construction Manual, M 41-01; Current edition.
2. Standard Specifications for Road, Bridge and Municipal Construction, M 41-10; Current edition.
3. Materials Manual, M 46-01; Current edition.

1.04 SUBMITTALS

A. A separate job mix formula for each proposed mix design shall be submitted in writing by the Contractor upon execution of the task order. Submittals shall represent all submittal elements specified herein and shall include as a minimum:

1. Mix designation/identification number.
2. Plant where mix will be produced.
3. Performance Graded Binder Certified Test Reports
 - a. Source location and type of binder.
 - b. Certificate of Compliance, including date and signature of the supplier, regarding conformance with AASHTO M 320, Table 1.
 - c. Temperature-viscosity relationship of the asphalt cement.
 - d. Minimum mixing temperature (degrees F).
 - e. Minimum compaction temperature (degrees F).

4. Coarse Aggregate Certified Test Reports:
 - a. Source location and type of aggregate.
 - b. Angularity.
 - c. Bulk specific gravity.
 - d. Flat and elongated particles.
 - e. Soundness.
 - f. LA Abrasion.
5. Fine Aggregate Certified Test Reports:
 - a. Source location and type of aggregate.
 - b. Bulk specific gravity.
 - c. Liquid limit.
 - d. Plasticity index.
 - e. Percent natural sand (if used).
 - f. Sand equivalent.
 - g. Uncompacted void content.
6. Anti-strip agent:
 - a. Certification.
 - b. Amount used.
7. Recycled Asphalt Pavement Test Reports (if used)
8. Percentage and grade of performance graded asphalt binder.
9. Proportions and percentage of each aggregate stockpile.
10. Temperature of mix when discharged from the mixer.
11. Plot of the blended aggregate gradation and gradation control points on the Federal Highway Administration (FHWA) 0.45 power gradation curve.
12. Maximum specific gravity at the target binder content.
13. Air void content at the target binder content.
14. Graphical plots of air voids, voids in the mineral aggregate, voids filled with asphalt, fines to effective binder content ratio, and unit weight versus asphalt content. Plots shall indicate values at -0.5 percent design asphalt content, design asphalt content, and +0.5 percent design asphalt content.
15. Tensile strength ratio (TSR), strength of conditioned samples, and worksheets.

B. The certification(s) shall show the appropriate AASHTO/ASTM test(s) for each material, test results, and a statement that the material meets the specification requirement.

C. If requested by the Engineer, submit samples for each type aggregate to be used and from each source with proper identification as to source, type of aggregate and contract number. Take all samples in accordance with requirements of ASTM D75 and D242. Submit in clean, sturdy bags and in the following amounts for each sample when requested:

MATERIAL	SAMPLE SIZE
Coarse Aggregate	25 lbs.
Fine Aggregate	25 lbs.
Reclaimed Asphalt Pavement	25 lbs.
Mineral Filler	5 lbs.

D. The job mix formula for each mixture shall be in effect until modified in writing by the Engineer. Should a change in mix or sources of materials be made, a new job mix formula must be tested and resubmitted for approval by the Engineer before the new mix is used.

E. Working Drawings: For each paving area, provide working drawings to show the following information:

1. Direction of paving.
2. Lane widths.
3. Thickness of each lift.

F. Submit smoothness measurements and surface grade survey results to the Engineer prior to application for payment.

1.05 CONTRACTOR QUALITY CONTROL

A. The Contractor shall be responsible for developing the asphalt mix designs specified herein. The mix designs shall be developed and/or certified by a laboratory accredited by AASHTO under the AASHTO Materials Reference Laboratory (AMRL) program.

B. Quality Control Testing: The Contractor shall conduct any and all quality control (QC) testing that he deems necessary to properly control the quality, consistency, and uniformity of the asphalt concrete mix being produced. No minimum number of quality control tests is required for this Contract.

C. If the Contractor chooses to conduct quality control tests, the information and data determined through that testing shall be made available for inspection by the Engineer. In no case, however, shall the Contractor's quality control test data be used by the Engineer for acceptance or payment purposes.

D. Surface Grades: Grades shall conform to the tolerance requirements specified herein, except where closer tolerance is required for the proper functioning of appurtenant structures and drainage as determined by the Engineer.

1.06 QUALITY ASSURANCE

- A. The Port will provide inspection services to the satisfaction of the Engineer. Sampling and testing for compliance shall be in accordance with the applicable reference standards using certified technicians and accredited independent testing laboratories.
- B. Sampling and testing for compliance with the Contract provisions shall be in accordance with Section 01 33 00 - Submittal Procedures and Section 01 45 00 - Quality Control.
- C. The Contractor may obtain copies of results of tests performed by the Port from the office of the Port, at no cost. Tests conducted for the sole benefit of the Contractor, shall be at the Contractor's expense.
- D. Unless otherwise referenced or modified herein, quality control and quality standards for this section shall be as specified in the WSDOT Standard Specifications.

1.07 JOB CONDITIONS

- A. Environmental Requirements:
 1. Weather limitations shall be in accordance WSDOT Standard Specifications Section 5-04.3(16), as modified herein.
 2. In case of sudden rain, the Engineer may permit placing of mixture then in transport from the plant provided that the surface upon which the mix is being placed is free from pools of water. In addition, the laydown temperatures must conform to the above requirements. Such permission, however, shall not be interpreted as a waiver of any of the quality requirements.
- B. New and existing manholes, catch basins, and utility vault covers shall be adjusted to conform to the new pavement grades. Paving shall be finished $\frac{1}{4}$ -inch to $\frac{1}{2}$ -inch higher than adjacent structures, unless otherwise shown or specified.
- C. Existing Underground Utilities: The Contractor shall locate existing underground utilities in the area of the work. Those utilities which are to remain shall be adequately protected from damage.
- D. All permanent utilities shall be installed prior to final paving. All utility trenches shall be patched with asphalt pavement as shown on the Contract Drawings.
- E. Dust Control: The Contractor shall be responsible for dust control at the site. As a minimum, a water truck and vacuum truck shall be used on site for dust control when required by the Engineer.

PART 2 - PRODUCTS

2.01 PERFORMANCE GRADED ASPHALT BINDER (PGAB)

A. Asphalt shall conform to the requirements of AASTHO M 320 and the elastic recovery requirements of WSDOT Standard Specification Section 9-02.1(4) for the Performance Grade specified herein.

2.02 AGGREGATE

A. Coarse Aggregate – Coarse aggregate shall conform to WSDOT Standard Specification Section 9-03.8, as modified below:

Test	Specification
Flat and Elongated Particles (ASTM D 4791, using a ratio of 5:1, maximum to minimum dimension)	8%, maximum
Coarse Aggregate Angularity (AASHTO T 335)	90% with 2 or more fractured faces
LA Abrasion Wear (AASHTO T 96, 500 revolutions)	30%, maximum
Sodium Sulfate Soundness Loss (AASHTO T 104, 5 cycles)	13%, maximum

B. Fine Aggregate - Fine aggregate shall consist of clean, sound, durable, angular shaped particles produced by crushing stone or gravel that meets the requirements for wear and soundness specified for coarse aggregate. Natural (non-manufactured) siliceous sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this Specification. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls. Fine aggregate shall conform to WSDOT Standard Specification Section 9-03.8, as modified below:

Test	Specification
Sand Equivalent (AASHTO T 176)	45%, minimum
Uncompacted Void Content (AASHTO T 304, Method A)	44%, minimum
Plasticity Index (AASHTO T 90)	Non-plastic
Liquid Limit (AASHTO T 89)	25, maximum
Deleterious Materials (AASHTO T 112)	2%, maximum

C. Mineral filler, when used, shall conform to the requirements of AASHTO M 17.

D. Recycled Asphalt Pavement (RAP)

1. RAP, if used, shall conform to the requirements of WSDOT Standard Specification Section 9-03.8(3)B, 9-03.21(1) and 9-03.21(1)A, as modified herein.
2. The maximum proportion of RAP permitted within each mix shall not exceed 20 percent.
3. RAP shall have 100 percent passing the 2-inch sieve, 95 percent passing the 1 inch sieve, and shall be a mixture of only coarse aggregate, fine aggregate, and asphalt cement, free of solvents and other contaminating materials.
4. When RAP is used in a mixture, the RAP aggregate shall be extracted from the RAP using a solvent extraction (AASHTO T164) or ignition oven (AASHTO T308). The RAP aggregate shall be included in determinations of gradation, coarse aggregate angularity, fine aggregate angularity, and flat-and-elongated requirements. The sand equivalent requirements shall be waived for the RAP aggregates but shall apply to the remainder of the aggregate blend.
5. Documentation of RAP stockpile quality and traceability shall be submitted to the Engineer for approval prior to use.

E. Aggregate Gradation

1. Each gradation contains maximum and minimum control points. Job mix formula gradations must fall within control points for the specified nominal aggregate size. The combined aggregate shall conform to the gradation requirements shown below when tested in accordance with AASHTO T 11 and T 27. Design gradation requirements are as follows:

Design Aggregate Gradation Control Points	
Sieve Size	Class B (1/2-inch) (Percent Passing)
1-1/2"	-
1"	-
3/4"	100
1/2"	90-100
3/8"	75-90
No. 4	46-66
No. 8	-
No. 10	30-42
No. 40	11-24
No. 200	3.0-7.0

2. Aggregates shall be provided in sufficient sizes to produce a uniform mixture. The Contractor shall indicate on the proposed job-mix formula the separate size designations of aggregate to be used.

3. It is recommended that the Bailey Method of gradation evaluation be used to evaluate the packing of aggregate particles and constructability of the blended aggregate mix. If segregation or non-uniformity is evident in the finished pavement, the Engineer reserves the right to require the Contractor to discontinue the use of crusher run or aggregate blends and to furnish separate sizes of open graded aggregate material.

2.03 HOT MIX ASPHALT (HMA) MIX DESIGN

- A. Mix design shall be prepared using the Hveem mix design method in accordance with the WSDOT Materials Manual Standard Operating Procedure 702, WSDOT Materials Manual Standard Operating Procedure 703, and the 2002 WSDOT Standard Specifications, as modified herein. The 2002 WSDOT Standard Specifications are referenced for mix design purposes only and the current edition of the WSDOT Standard Specifications is applicable to all other references.
- B. Asphalt Binder: PG 64-22.
- C. Aggregate Gradation: Class B (1/2").
- D. Stabilometer Value: 35, minimum.
- E. Cohesiometer Value: 100, minimum.
- F. Air Voids: 2% – 4.5%.
- G. The dust to binder ratio of the blended mix shall be between 0.6 and 1.6.
- H. Compacted mix design shall have a tensile strength ratio (TSR) greater than or equal to 85 percent when tested in accordance with WSDOT Test Method T718, including the freeze-thaw cycle. In addition, the mixture shall have a minimum wet tensile strength of 80 pounds per square inch (psi). In the event the mix design does not meet the tensile strength requirements the Contractor shall increase the approved anti-stripping agent dosage or take other corrective action to satisfy the specification.

2.04 HEAT-STABLE ANTI-STRIPPING ADDITIVE

- A. Mix designs shall include a minimum of 0.1 percent by weight binder, anti-stripping additive conforming to the requirements of WSDOT Standard Specification Section 9-02.4.

2.05 TACK COAT

- A. Unless otherwise approved by the Engineer, the tack coat shall be CSS-1, CSS-1h, or STE-1 emulsified asphalt conforming to WSDOT Standard Specification Section 9-02.1(6). The CSS-1 and CSS-1h emulsified asphalt may be diluted with water at a rate not to exceed one part water to one part emulsified asphalt. The tack coat shall not exceed the maximum temperature recommended by the emulsified asphalt manufacturer.

2.06 JOINT AND CRACK SEALANT

- A. A. Sealant shall conform to the requirements of WSDOT Standard Specification Section 9-04.10.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Asphalt Mixing Plant – Asphalt shall be produced at a plant approved by the WSDOT. Plants shall conform to WSDOT Standard Specifications Section 5-04.3(1).
- B. Hauling Equipment:
 1. Hauling equipment shall conform to WSDOT Standard Specifications Section 5-04.3(2), as modified herein.
 2. Trucks shall be equipped with tarps, in good condition without holes, which can be tied down over the sides and ends of the truck beds during periods of inclement weather to prevent rain from entering the truck bed and coming in contact with the asphalt concrete mix.
 3. Trucks shall be loaded using a multiple-drop method (front then back the middle) to minimize truck to truck segregation.
- C. Paving Equipment – Asphalt pavers shall conform to WSDOT Standard Specifications Section 5-04.3(3).
- D. Compaction Equipment – Rollers shall conform to WSDOT Standard Specifications Section 5-04.3(4).
- E. Preparation of the Asphalt Binder Material (asphalt cement):
 1. The binder shall be stored within the temperature range specified by the supplier of the binder for the grade of asphalt cement being used. Different grades of asphalt binder shall be stored separately and not mixed together at any time.
 2. The binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the bituminous material to the mixer at a uniform temperature.
 3. The temperature of the binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 350 degrees F unless otherwise required by the asphalt binder manufacturer.
- F. Preparation of the Aggregates:
 1. The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates.

2. The aggregate temperature shall not be lower than is required to obtain complete coating and uniform distribution of the aggregate particles and to provide a mixture of satisfactory workability.

G. Preparation of Bituminous Mixture:

1. Mixing shall conform to WSDOT Standard Specifications Section 5-04.3(8), as modified herein.
2. The aggregates and the bituminous material shall be properly proportioned and introduced into the mixer in the amount specified by the job mix formula.
3. Job mix formula production tolerances shall conform to WSDOT Standard Specifications Section 9-03.8(7), except the tolerance limits for aggregate shall not exceed the limits of the control points specified herein.
4. The moisture content of all bituminous mix upon discharge shall not exceed one (1) percent.

H. Preparation of the Underlying Surface:

1. Preparation shall conform to WSDOT Standard Specifications Sections 5-04.3(5), 5-04.3(5)A, 5-04.3(5)B, 5-04.3(5)C, 5-04.3(5)D, and 5-04.3(5)E, as modified herein.
2. Asphalt materials shall not be placed until the underlying course has been tested by the Port's Representative and accepted by the Engineer.
3. Immediately before placing asphalt materials, clean all underlying pavement surfaces and previous courses of all loose and foreign material by sweeping with hand brooms, power sweepers or blowers as directed by the Port's Representative or Engineer.
4. Tack Coat:
 - a. Tack coat shall be applied in accordance with WSDOT Standard Specifications Section 5-04.3(5)A, as modified herein. The Port inspector shall verify that the tack coat has been properly placed prior to constructing subsequent pavement lifts. Refer to the applicable sections in Chapter 5 of the WSDOT Construction Manual for guidance on tack coat application and inspection.
 - b. Apply tack coat only when the underlying surface is dry, and the ambient temperature meets the requirements for the pavement course being placed.
 - c. Residual asphalt coating shall be 0.03 to 0.05 gallons per square yard on newly placed asphalt surfaces
 - d. Residual asphalt coating shall be 0.06 to 0.08 gallons per square yard on existing or milled asphalt surfaces.

5. Manholes, valve boxes, inlets, and other appurtenances within the area to be paved shall be adjusted to grade as shown on the Contract Drawings. Permanent curbs, gutters, and other supports shall be constructed and backfilled prior to placing asphalt. All contact surfaces shall be coated with tack coat.

I. Transporting, Placing, and Finishing:

1. The asphalt concrete mixture shall be transported from the mixing plant to the site in vehicles conforming to the requirements specified herein.
2. Hauling over freshly placed material shall be not permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.
3. Placing and finishing of the asphalt mixture shall be in accordance with WSDOT Standard Specifications Section 5-04.3(9), as modified herein.
4. The nominal compacted depth of any layer of any course shall not exceed five (5) times the nominal maximum aggregate size of the asphalt mix.
5. The hot mix asphalt mixture shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than that specified below. The temperature requirements may be waived by the Engineer, if requested; however, all other requirements including compaction shall be met.

Lift Thickness, T (inches)	Minimum Base Temperature (degrees F)
$T > 3$	35
$2 < T < 3$	35
$T < 2$	45

6. The initial placement of the asphalt concrete mixture shall occur at a temperature suitable for obtaining density, surface smoothness, and other specified requirements but not less than 250 degrees F, unless approved by the Engineer.
7. Upon arrival, the mixture shall be placed to the full width of the paving lane. It shall be struck off in a uniform layer of such depth that, when the mix is properly compacted, shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise permitted, placement of the mixtures shall begin along the centerline of a crowned section or on the high side or areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 10-feet except where edge lanes require less width to complete the area.
8. Compaction of the asphalt mixture shall be in accordance with WSDOT Standard Specifications Section 5-04.3(10), as modified herein.

- a. Each day's production will be treated as a lot. A minimum of five sublots will be tested. Sublot sizes will not exceed 20 tons. Random test locations will be determined according to WSDOT Test Method T 716.
- b. In-place density shall be a minimum of 93% of the reference theoretical maximum density as determined by WSDOT FOP for WAQTC TM 8. Evidence of gauge calibration to cores, required in the test method, shall be provided for the approved job-mix being placed at a similar thickness or the gauge will be calibrated as described in the test method.
- c. Determine reference theoretical maximum density as the moving average of the most recent five determinations for the lot of asphalt concrete being placed according to WSDOT Materials Manual Standard Operating Procedure 729.
- d. Engineer may evaluate cyclic density as described in WSDOT Standard Specifications Section 5-04.3(10)B2 to assess segregation.

9. Joints:

- a. The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 6-inches; however, the joint in the surface course shall be at the centerline of the pavement if that pavement is to be used by normal car or truck traffic.
- b. Longitudinal joint density shall be assessed once per subplot in accordance with WSDOT SOP 735. Low density is defined as less than 91 percent of reference maximum density. When placing a single paver width patch, consecutive density tests will be taken on alternating sides of the patch.
- c. Transverse joints in one course shall be offset by at least 10-feet longitudinally from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10-feet.

10. On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread and raked by hand tools.

3.02 JOINT SEALANT

- A. Apply joint sealant to the edges of new paving joints, catch basins, manholes, at the meet lines to concrete structures and as directed by the Engineer.

3.03 SURFACE SMOOTHNESS

- A. The completed surface of the wearing course shall conform to the smoothness tolerance requirements of WSDOT Standard Specifications Section 5-04.3(13).

END OF SECTION