PORT OF TACOMA
TACOMA, WASHINGTON
CONTRACT NO. 070129

401 Alexander Building 9407
Roof Replacement and Building Upgrades
PROJECT NO. 091362

PROJECT MANUAL

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Issued for Bid

PROCUREMENT AND CONTRACTING REQUIREMENTS

SPECIFICATIONS

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

401 Alexander Building 9407

Roof Replacement and Building upgrades

PROJECT NO. 091362 | CONTRACT NO. 070129

Scope of Work:	The work required for this project includes repair of deteriorated roof decking, purlins and installation of new asphalt shingles, structural repairs to miscellaneous columns, beams, girts, and buttresses.
Bid Estimate:	Estimated cost range is $2,087,000 to $2,551,000, plus Washington State Sales Tax (WSST).
Sealed Bid Date / Time / Location:	Bids will be received at the Front Reception Desk, Port Administration Office, One Sitcum Plaza, Tacoma, Washington until **2:30 PM on August 18, 2015**, at which time they will be publicly opened and read aloud.
Pre-Bid Conference and Site Tour:	Mandatory pre-bid conferences and site visits have been set for **August 4, 2015 at 10:00 AM and August 5, 2015 at 2:00 PM**. Attendance is required at only one. The conference/site visit will convene at the project location, 401 Alexander Avenue, building 9407. Parking is available along Southeast side of building 9407. All major subcontractors should also attend.
Bid Security:	Each bid must be accompanied by a Certified Check or Bid Security Bond in an amount equal to five (5) percent of the bid.
Contact Information:	All questions are to be put into writing to **BergerABAM at port.procurement@abam.com.** No oral answers will be binding by the Port or its consultants.
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. Click on "Contracts"; "Procurement", and then the Procurement Number **(070129)**. 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. Holder's Lists will be updated on a regular basis. Additional Instructions available in 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. An "Additive Bid" (or "Additive") is an amount stated in the Bid to add specified features of the work.

C. An "Alternate Bid" (or "Alternate") is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

D. "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.

E. The "Award Requirements" include the statutory requirements as a condition precedent to Award.

F. The "Base Bid" is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base to which work may be added or from which work may be deleted for sums stated in Alternate Bids.

G. 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.

H. 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.

I. 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.

J. A "Bidder" is a person or entity who submits a Bid.

K. 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.

L. 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.

M. The "Schedule of Unit Prices" is a separate 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 not predictions of amounts anticipated. The Port may but is not obligated to accept a Schedule of Unit Price if it accepts the Base Bid .The Schedule of Unit Prices are not factored into the evaluation of determining the low bid amount and are not included as part of the bid award amount.

N. 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:

A. BIDDING DOCUMENTS. The Bidder has read and understands the Bidding Documents, and its Bid is made in accordance with them.

B. PRE-BID MEETING. The Bidder has attended pre-Bid meeting(s) required by the Bidding Documents. Attendance at a mandatory meeting or training session means that, in the sole opinion of the Port, a Project representative of a prospective Bidder has attended all or substantially all of such meeting or session.

C. BASIS. Its Bid is based upon the materials, systems, services, and equipment required by the Bidding Documents, and is made without exception.

D. 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 Project site, 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. The Bidder has also satisfied itself as to the conditions and other matters that may be encountered at the Project site 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 Contract Sum 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 '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. For more instructions, see the Port of Tacoma website.

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 port.procurement@abam.com at least **seven (7) days prior to the Bid Date**.

5. **Request to Modify Responsibility Criteria**. No later than **ten (10) 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.

5. 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, will not be binding, and Bidders shall not rely upon such statements, interpretations, corrections or changes. The Port is not responsible for explanations or interpretations of the Bidding Documents other than in a written Addendum.

6. Site Visits. Any site visits are provided as a courtesy to potential Bidders to assist them in becoming familiar with the Project site conditions. However, only the Bidding Documents, including any issued Addenda, may be relied upon by Bidders.

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. SUBSTITUTIONS

1. For substitutions during bidding, refer to Section 00 26 00 – Substitution Procedures During Bidding.

D. 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 the select the project number/title to go to the project page. **Only those who have signed up for the Holder's List will get the automatic emails when new project information is posted.**

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. Alternates. All Alternates should be Bid. The Port reserves the right, but is not obligated, to reject any Bid on which all requested Alternates are not Bid. If no change in the Base Bid is required for an Alternate, enter "Zero" or "0." If there is no entry, the Bidder will be presumed to have made no offer to perform the Alternate. If it is not otherwise clear from the Bid or the nature of the Alternate, it will be presumed that the amount listed for an Alternate is additive rather than deductive.

7. 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.

8. No Conditions. The Bidder shall make no conditions or stipulations on the Bid Form nor qualify its Bid in any manner.

9. 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. 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

10. 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. SUBMISSION OF BIDS

1. Procedure. The Bid, 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 Sitcum Plaza, Tacoma, WA 98421.

   b. If a Bid is delivered, it shall be delivered to the Front Reception Desk, Port of Tacoma, One Sitcum Plaza, Tacoma, WA 98421.

   c. The time stamp clock at the Front Reception Desk at One Sitcum 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.

C. 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.

D. COMMUNICATIONS

1. Communications from a Bidder related to these Instructions to Bidders must be in writing to port.procurement@abam.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, 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. Alternates. The Port shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Contract or Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates (if any) accepted. Failure to submit Bids on all Alternates may be cause for rejecting the Bidder's entire Bid. The Port retains the right to accept Alternate Bid items at the price Bid within sixty (60) days after the Contract is executed.

3. 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. Have a current state unified business identifier number.
2. Have a current registration as required in RCW 18.27.
3. If applicable, have industrial insurance coverage for the Bidder's employees working in Washington as required in RCW 51.
4. Have an employment security department number as required in RCW 50.
5. Have a state excise tax registration number as required in RCW 82.
6. 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).

B. INFORMATION FROM APPARENT LOW BIDDER

1. Submittal. Within 24 hours of the Bid Date, the apparent low Bidder shall submit to the Port the following documents executed by an authorized company officer; written confirmation that the person signing the Bid on behalf of the Bidder was duly authorized, a detailed breakdown of the Bid in a form acceptable to the Port, and other information required by Port procedures, including:
    a. The Bidder's recent job resume. Include a minimum of five jobs with the past five years of similar size and scope to the proposed work, using similar materials, greater than 20,000 square foot, and have a minimum $500,000 value to the roofing scope.
    b. Demonstration that the installer for the proposed roofing system has been continuously approved as an applicator of the proposed roofing system for a minimum of five years.
    c. Resumes of the Bidder's proposed Project Manager and Superintendent.
    d. A list of all contracts of the Bidder terminated prematurely within the past five years.
    e. A list of any L&I, environmental or building citations or notices of violation issued to the Bidder within the past five years.
2. To be considered Responsible, submit documentation showing the apparent low bidder meets the following supplemental criteria applicable to this Project:
    1. The Bidder must demonstrate that it has the ability, capacity, and skill to perform the Contract;
    2. The Bidder must have the character, integrity, reputation, judgment, experience, and efficiency to perform the Contract;
    3. The Bidder must demonstrate that it has the ability to perform the Contract within the time specified;
    4. Demonstration by the Bidder of previous and existing compliance with laws relating to the Contract;

5. The quality of performance by the Bidder and listed Sub-Bidders on previous public works projects in Washington of a scope and magnitude equal to or greater than the Project;

6. The demonstrated ability of the Bidder, in the last five (5) years, to perform and successfully complete public works projects of a similar scope and scale to the Project;

7. L&I workers compensation experience factor of less than 1.0 for each of the past three years.

8. Demonstration by the Bidder and listed Sub-Bidders that their proposed Project Managers have a minimum of five (5) years of successful experience in project management of public works projects of a similar scope and complexity to the Project;

9. Demonstration by the Bidder and listed Sub-Bidders that their proposed Superintendents have a minimum of seven (7) years of successful supervision of public works projects of a similar scope and complexity to the Project; and

10. The Bidder and listed Sub-Bidders must not currently be a party to a formal dispute resolution process with the Port—i.e., a pending mediation, arbitration or litigation.

3. Within ten (10) days after the Port's Notice of Award of the Contract, the apparent low Bidder shall also submit to the Port:

   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.

   c. The proprietary names and the suppliers of the principal items or systems of materials and equipment proposed for the Work.

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.

C. 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.

END OF SECTION

PART 1-GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for substitutions during bidding.

B. Related Section:

1. 00 21 00 – INSTRUCTIONS TO BIDDERS

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 bidding 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, and 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. Pre-Bid Substitution Requests: Submit one PDF of the substitution request form along with all supporting documentation for consideration of each request. Identify product or fabrication or installation method to be replaced. Include Drawing numbers and titles. Substitution requests prior to bid date may originate directly from a prime bidder, or from a prospective supplier or subcontractor.

1. Substitution Request Form: Use copy of form located in Section 00 43 25 - SUBSTITUTION REQUEST FORM – DURING BIDDING.

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.

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. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

d. Samples, where applicable or requested.

e. Certificates and qualification data, where applicable or requested.

f. Research reports evidencing compliance with building code in effect for project

4. Engineer's Action: Engineer will review substitution requests if received electronically to port.procurement@abam.com at least 7 days prior to the bid opening date set forth in these documents. Substitution requests received after this time will not be reviewed.

    a. Forms of Acceptance: Substitution requests will be formally accepted via written addendum prior to the bid opening date. Bidders shall not rely upon approvals made in any other manner.

    b. Use product originally specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

    c. The Port's decision of approval or disapproval of a proposed substitution shall be final.

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. Acceptance will require substantial revision of Contract Documents or other items of the Work.

3. 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.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section provides the notification required for disclosure of asbestos, lead-containing or other hazardous materials.

1.02 EXISTING CONDITIONS

A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of the Contract Documents, as follows:

1.03 HAZARDOUS MATERIALS NOTICE

A. The Port is reasonably certain that asbestos will not be disturbed by the project. If the Contractor encounters material suspected of containing asbestos which will interfere with the execution of the work, the Contractor shall stop affected portion of work and notify the Engineer.

B. Contractor is notified that certain portions of the Work area are known to contain lead, as detailed in a Hazardous Materials Assessment, provided by NVL Labs on June 26, 2015. A copy of the assessment is included as an Attachment to this section 00 31 26. A copy of the assessments are attached by reference to this section. The full reports can be accessed at the following link:

http://portoftacoma.com/sites/default/files/091362%20401%20Alexander%20Building%209407%20Roof%20Replacement%20and%20Building%20Upgrades_Existing%20Hazardous%20Material%20Information.pdf

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

NVL LABS

INDUSTRIAL HYGIENE SERVICES

Laboratory | Management | Training

Limited Hazardous Materials Survey

(Building 9407)
401 E Alexander Avenue
Tacoma, WA 98421

Prepared For
Mr. Stuart Currie
Port of Tacoma
One Sitcum Plaza
Tacoma, WA 98421

Project Number:	2015-522
Inspection Date:	June 18, 2015
Report Date:	June 26, 2015
Inspected By	Sam House / Tanveer Khan
AHERA Certification	149604 / 151522
Expiration Date	December 31, 2015 / May 19, 2016

TABLE OF CONTENTS

1.0 SCOPE OF WORK

This report was prepared for the Port of Tacoma under subcontract to Dalton, Olmsted & Fuglevand, Inc. as part of On-Call Environmental Support Services PSA No. 069786, NVL-03, Port Task Order No. 4 to document a limited Hazardous Materials Survey conducted on building 9407 located at 401 E Alexander Avenue, Tacoma, WA 98421 on June 18, 2015.

Sam House and Tanveer Khan, AHERA Certified Building Inspectors, conducted this survey at the request of Mr. Matt Dalton, of Dalton, Olmsted, & Fuglevand, Inc.

The purpose of this inspection was to identify suspect building materials that would be impacted by the re-roofing, electrical and structural upgrade project. Destructive sampling methods were utilized to collect samples of suspect building materials. No soft/limited demolition was performed during this inspection. Hidden materials may exist within the structure, and all suspect materials must be treated as hazardous until laboratory testing proves otherwise.

This survey constitutes a survey of accessible suspect ACM in the project area and was conducted in accordance with:

The National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 Code of Federal Regulations (CFR) Part 61 requires a survey by an accredited asbestos inspector prior to demolition of a structure.

This asbestos survey also satisfies the requirements for "Good Faith" inspection outlined in Washington Administrative Code (WAC) 296-62-07221(2), *Identification*, which requires the owner of a structure to provide contractors with a written report identifying the asbestos-containing materials expected to be disturbed during renovation or demolition.

The asbestos survey section is written to comply with the AHERA asbestos sampling procedure as stated in 40 CFR 763.86. This protocol is required under the Puget Sound Clean Air Agency (PSCAA Regulation III, Article IV, rev. July 13, 2000) for all asbestos surveys prior to a building demolition.

Recommendations have been included for compliance with WAC 296-155-176 "Lead in Construction". The Lead in Construction regulations are designed to protect workers from lead hazards during construction and demolition activities.

Bulk sampling for suspect polychlorinated biphenyl (PCB) containing paint coatings impacted by the planned renovations was also performed at the subject structure. Samples were collected by Tanveer Khan, an OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) and AHERA Certified Building Inspector. Sampling was performed to meet the requirements of the US EPA Toxic Substances Control Act of 1976 (TSCA, 40 CFR 761.61), which requires representative bulk sampling of suspect PCB containing materials. The TSCA regulatory limit for solid PCB Bulk Product Waste is 50 parts per million (PPM). Disposal of bulk solid building materials with 50 PPM or greater total PCB content is regulated under TSCA.

A floor plan indicating locations of samples collected by NVL personnel has been included in **Appendix A**.

2.0 SURVEY METHOD

Asbestos Survey Method

The NVL Labs field inspector is an Asbestos Building Inspector, certified under the requirements of the United States Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulation 40 CFR 763, Subpart E. A copy of his certificate is provided in Appendix C.

The AHERA Guidelines dictate the following:

The inspector must determine *homogenous areas*, which are defined as an area of Thermal System Insulation, Surfacing Material, or Miscellaneous Material that is uniform in texture and color.

Once homogenous areas have been determined, the inspector must determine whether or not material is friable or non-friable. ***Friable*** is defined as a material, that when dry, can be crushed, pulverized, or reduced to dust using hand pressure, and ***non-friable*** material is defined as a material, that when dry, *cannot* be crushed pulverized or reduced to dust using hand pressure. Materials normally defined as non-friable can become friable by definition if sufficiently damaged.

Once friability has been determined, the materials suspected of containing asbestos are divided into one of three categories: Thermal System Insulation (TSI), Surfacing Material (SM), or Miscellaneous Material (MM). Generally speaking, TSI and SM are considered to be friable, with the exception of TSI where the structural integrity of the insulation is intact and the protective out wrap is undamaged.

Once materials are divided into one of the categories, samples are collected in the following manner:

Friable Thermal System Insulation:

1. Inspector shall collect three (3) randomly distributed samples;

2. Inspector shall collect a minimum of one sample of each TSI materials that appears to have been used as a patch, as long as the patch is less than six linear feet or six square feet;

3. Inspector shall collect in a manner sufficient, samples from areas of TSI applied to fittings, tees, and joints.

Friable Surfacing Material:

1. Inspector shall collect samples in random manner of surfacing materials as follows:

    a. Collect three bulk samples from an area believed to be homogeneous (defined as a material that appears to be the same or similar and was installed at the same time) that is 1,000 square feet or less in size;

    b. Collect five bulk samples from an area believed to be homogeneous that is greater than 1,000 square feet in size, but less than 5,000 square feet in size;

    c. Collect seven bulk samples from an area believed to be homogeneous that is greater than 5,000 square feet.

Miscellaneous Materials:

1. Inspector shall collect samples in a manner and number sufficient to determine if the material is asbestos-containing or not.

All Materials Determined to Be Non Friable:

1. Inspector shall collect samples in a manner and number sufficient to determine if the material is asbestos containing or not.

In addition to these sampling requirements, the AHERA Building Inspector is required to assess the following of each material that is found to be positive for asbestos:

1. The condition of each material;

2. Accessibility;

3. Possibility for air erosion.

Once the samples have been collected, they must be analyzed by an accredited laboratory, and they must be analyzed using polarized light microscopy methods, commonly referred to as EPA Method 600/R-93/116.

NVL Labs collected samples and obtained analytical data for suspect asbestos-containing materials identified in the building. Once collected, each bulk sample was sealed in an unadulterated plastic bag to eliminate the possibility of cross-contamination. "Chain-of-Custody" tracking was followed to maintain sample integrity during handling and data reporting at NVL Labs.

A walk-through inspection of all accessible areas of this structure was performed to identify potential asbestos-containing materials. The walk-through inspection included a review of the internal and external aspects of this structure. The locations and types of potential asbestos-containing materials were noted.

Homogeneous Materials

Homogeneous materials are defined as an area of asbestos-containing material or presumed asbestos-containing material which appears similar throughout in terms of color, texture, and date of material application. The report listing for homogenous materials will appear as follows:

Sample Number	Material Description by Layer	Location	Asbestos	Quantity	Friable
#	Layer 1 is not asbestos-containing **Layer 2 is asbestos-containing**	**Location description**	1. % 2. %	**"X" LF/ft²**	**Yes/No**

Lead Survey Method

NVL Labs collected representative samples of paint from the interior and exterior of the building within the project scope. Once collected, each bulk sample was sealed in an unadulterated plastic bag to eliminate the possibility of cross-contamination. "Chain-of-Custody" tracking was followed to maintain sample integrity during handling and data reporting at NVL Labs. Sampling was representative of all layers of paint. Copies of laboratory reports and field data forms for lead paint are in Appendix B.

PCBs Survey Method

Sampling was performed in accordance with the EPA PCB Bulk Sample Collection Procedure for Bulk Solid Samples and the 2011 EPA Standard Operating Procedure (SOP) for Sampling Porous Surfaces for Polychlorinated Biphenyls. Metal hand tools were used to remove bulk product materials and place them in labeled, sealed containers to eliminate the possibility of cross-contamination. Chain-of-Custody" protocols was followed to maintain sample integrity during transportation/handling and data reporting at NVL Labs. The tools utilized to collect samples were cleaned between collection of each unique sample. As per TSCA requirements for representative sampling described in section 13.1 of the 2011 EPA SOP, at least one sample was collected of each unique homogeneous material to be impacted during the planned scope of work.

3.0 LABORATORY INFORMATION

Laboratory Analysis: Asbestos

In accordance with 40 CFR Chapter 1 (1-1-87 edition) Part 763, Subpart F, Appendix A, asbestos samples are analyzed at NVL Labs using polarized light microscopy (PLM) with dispersion staining. If samples are not homogeneous, then sub-samples of the components are analyzed separately. All bulk samples are analyzed using EPA Method 600/R-93/116 with the following measurement uncertainties for reported % asbestos: 1%=0-3%, 5%≥1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%. Only materials containing more than 1% total asbestos were classified as "asbestos-containing" based on EPA, state, and local regulations.

Findings for samples containing more than one separable layer of materials are reported for each layer. The asbestos concentration in the sample is determined by visual estimation.

NVL Labs is accredited by the National Institute of Standards and Technology (NIST) under the National Volunteer Laboratory Accreditation Program (NVLAP) program for bulk asbestos fiber analysis; *NVLAP Lab Code 102063-0*

Laboratory Analysis: Lead (Pb)

Samples are analyzed for the presence of inorganic lead using atomic absorption spectroscopy (AAS) in accordance with EPA SW 846, method 7420 as revised 1986. This method reports results in milligrams per kilogram (mg/kg) or its equivalent, parts per million (ppm).

Laboratory Analysis: Polychlorinated Biphenyls (PCBs)

Laboratory analysis for the presence of PCB's was conducted by NVL Labs in accordance with EPA Method 8082. NVL Labs is a Washington State Department of Ecology and American Industrial Hygiene Association accredited laboratory certified to perform bulk PCB analysis. Results are reported in milligrams per kilogram (mg/kg), or the equivalent parts per million (ppm).

Laboratory Accreditation

Professional accreditations for NVL Laboratories, Inc. include the following:

NVL Laboratories, Inc. is currently accredited by the National Institute of Standards and Technology (NIST) under the National Volunteer Laboratory Accreditation Program (NVLAP) program for bulk asbestos fiber analysis.

NVLAP Lab Code 102063-0

NVL Laboratories, Inc. is approved by the American Industrial Hygiene Association (AIHA) Asbestos Analysts Registry (AAR) program for airborne asbestos fiber analysis.

AAR Counter ID 7412

NVL Laboratories, Inc. is currently accredited by the American Industrial Hygiene Association (AIHA) under the Industrial Hygiene Laboratory Accreditation Program (IHLAP). The IHLAP program is designed specifically for laboratories involved in analyzing samples to evaluate workplace exposure.

IHLAP Certification Number 563

4.0 BUILDING DESCRIPTION

General Building Type	The structure is a single story industrial warehouse of metal and wood framed construction.
Primary External Components	The exterior of the structure is metal siding.
Foundation Type	The structure has an on grade concrete slab foundation.
Roofing Material(s)	The structure has rolled vinyl roofing over white compressed insulation board.
Window Type(s)	The structure has aluminum framed windows without caulking or glazing.
Flooring	The flooring in the structure is vinyl tiles and concrete.
Thermal Systems With Insulation	No heating system was found during the inpection.
Finishing	The structure is finished with drywall, wood paneling and ceiling tiles.

5.0 FINDINGS

Inventory of Suspect Asbestos-Containing Materials

Sample Number	Material Description by Layer	Location	Asbestos	Quantity**	Friable*
2015-522-1-1	Texture with paint	Office – interior walls/ceilings	ND		
2015-522-1-2	1: Texture with paint 2: Tan paper with paint	Office – interior walls/ceilings	1: ND 2: ND		
2015-522-1-3	1: Texture with paint 2: White powdery material	Office – interior walls/ceilings	1: ND 2: ND		
2015-522-3-1	1: White vinyl 2: Sheetrock with fibrous wrap	East flat roof	1: ND 2: ND		
2015-522-3-2	1: White vinyl 2: Sheetrock with fibrous wrap	Central flat roof	1: ND 2: ND		
2015-522-3-3	1: White vinyl 2: Sheetrock with fibrous wrap	Central dome roof	1: ND 2: ND		
2015-522-3-4	1: White vinyl 2: Sheetrock with fibrous wrap	Shop – North flat roof	1: ND 2: ND		
2015-522-3-5	1: White vinyl 2: Sheetrock with fibrous wrap	Office - North flat roof	1: ND 2: ND		
2015-522-3-6	1: White vinyl 2: Sheetrock with fibrous wrap	Office - Northeast flat roof	1: ND 2: ND		
2015-522-3-7	1: Joint compound 2: Joint compound 3: Drywall	Shop, interior wall joint	1: ND 2: ND 3: ND		
2015-522-3-8	Leveling compound with mastic	Office, floor	ND		
2015-522-3-9	1: Brown vinyl cove base 2: Clear adhesive	Office - restroom, wall base	1: ND 2: ND		
2015-522-3-10	1: Light gray vinyl cove base 2: Off-white mastic 3: White powdery material with paint	Shop – restroom, wall base	1: ND 2: ND 3: ND		
2015-522-3-11	1: Gray tile 2: Light yellow mastic 3: Leveling compound	Dome warehouse, office 1, floor	1: ND 2: ND 3: ND		

ND None Detected

FINDINGS (Continued)

Sample Number	Material Description by Layer	Location	Asbestos	Quantity**	Friable*
2015-522-3-12	1: Black vinyl cove base 2: Off-white mastic 3: Paper with paint	Dome warehouse, office 1, wall base	1: ND 2: ND 3: ND		
2015-522-3-13	1: Green tile 2: Yellow mastic	Dome warehouse, office 2, floor	1: ND 2: ND		
2015-522-3-14	1: Beige vinyl cove base 2: Off-white mastic	Dome warehouse, office 2, wall base	1: ND 2: ND		

ND None Detected

Any suspect material(s) not identified above should not be disturbed and should be tested immediately. The suspect material must be treated as asbestos-containing until testing proves otherwise.

Inventory of Suspect Lead-Containing Paint Coatings

Sample Number	Material Description	Location	Lead in mg/kg	Lead in %
2015-522-Pb-1	**White paint on wood**	**Warehouse - Interior beams & columns**	**390.0**	**0.0390**
2015-522-Pb-2	**Beige paint on wood**	**Shop - Interior walls/ceilings**	**2900.0**	**0.2900**
2015-522-Pb-3	White paint on metal	Exterior siding	< 48.0	< 0.0048
2015-522-Pb-4	White paint on drywall	Office - Interior walls/ceilings	< 81.0	< 0.0081
2015-522-Pb-5	**Beige paint on metal**	**Exterior old siding**	**1800.0**	**0.1800**

< Lead content of material analyzed is below the Lower Detection Limit.

Results in bold indicate the sample contains lead in excess of detectable levels

Inventory of Suspect Poly Chlorinated Biphenyls (PCB) Bulk Samples

Sample Number	Material Description	Sample Location	PCB Concentration (PPM)	TSCA PCB Bulk Solid Waste Limit (PPM)	Sample Results at or Above TSCA Limit?
2015-522-PCB-1	White paint on wood	Interior	< 1.6	50 PPM	No
2015-522-PCB-2	Beige paint on wood	Interior	< 9.6	50 PPM	No
2015-522-PCB-3	White paint on metal	Exterior	< 9.8	50 PPM	No
2015-522-PCB-4	Beige paint on metal	Exterior	< 9.6	50 PPM	No

PPM = Parts Per Million (or mg/kg)
< = sample results below the analytical limit of detection

6.0 CONCLUSIONS AND RECOMMENDATIONS

Asbestos

The following is an inventory of asbestos-containing materials identified during the limited survey conducted at the subject address on June 18, 2015:

1. **Electrical panels / circuit breakers**
   Presumed

All the old electrical panels (orange colored) are presumed to be asbestos containing.

Contractors should be aware that concealed suspect asbestos-containing building materials may be uncovered during the course of demolition or renovation work. Contractors should have contingency plans that include stopping work, evacuation of the immediate area and sampling by a certified AHERA Building Inspector whenever these materials are found. Concealed suspect materials may include, but are not limited to: non-fiberglass pipe or roof drain insulation; spray-applied coatings; cement board; asphalt or paper vapor barriers; floorings and adhesives.

If discovered, all asbestos-containing materials that will be disturbed as a natural part of renovation and/or demolition are required to be removed and disposed of in accordance with Washington State regulations. Washington State Department of Labor and Industries and PSCAA require that the abatement be performed using Certified Asbestos Workers under the direct on site supervision by a Certified Asbestos Supervisor. Further, NVL suggests that an AHERA inspector review this property after abatement to ensure all asbestos-containing materials have been removed by the contractor.

NVL recommends that an AHERA inspector/project manager be on site at the time of renovation/demolition to ensure that any potentially asbestos-containing materials uncovered during the process of renovation/demolition be dealt with properly.

NVL Labs, Inc. is making the following recommendations regarding asbestos:

1. A copy of this inspection report should be maintained at the project site during the duration of any renovations or demolition.
2. A copy of this inspection report should be provided to the General Contractor and any Sub Contractors working on the renovation or demolition project.
3. A licensed asbestos abatement contractor must be utilized to remove any asbestos-containing materials that will be impacted by the renovations or demolition.

Lead

Lead-containing paint **was** identified in the following paint chip samples collected from the subject structure, worker protection protocols apply:

- *White paint on interior wooden beams and columns of the warehouse.*
- *Beige paint on interior wooden walls and ceilings of the shop.*
- *Beige paint on the old exterior metal sidings.*

The Federal Occupational Safety & Health Administration's (OSHA) interim lead safety standard (29 CFR 1926.59) for the construction industry became effective on June 3, 1993. Lead exposure in construction is regulated in Washington State by WAC 296-155-176. These regulations protect workers disturbing building surfaces with lead containing paints. Paint with "any detectable level" of lead is classified as a lead containing paint by federal and state regulations and the applicable worker safety provisions must be implemented.

WORKER EXPOSURE

WAC 296-155-176, Lead (Pb), applies to all construction work where an employee may be occupationally exposed to Lead (Pb). Construction work includes activities such as demolition or salvage, removal or encapsulation, and renovation of materials that contain Lead (Pb). When an employee may be occupational exposed to Lead (Pb), the employer must perform an exposure assessment according to WAC 296-155-176.

The exposure assessment consists of personal air monitoring to determine representative Lead (Pb) exposure levels for the work being performed. During the exposure assessment, the employer must provide the following:

- As a minimum, a half mask air purifying respirators equipped with high efficiency particulate air (HEPA) filters in accordance with WAC 296-155-17613.
- Appropriate personal protective clothing and equipment in accordance with WAC 296-155-17615.
- A designated change area which allows for separate storage areas for work and street clothing to prevent cross contamination in accordance with WAC 296-155-17619(2).
- Hand washing facilities to allow employees to wash their hands and faces WAC 296-155-17619(5).
- Biological monitoring in the form of blood survey and analysis for Lead (Pb) and zinc protoporphyrin levels in accordance with WAC 296-155-17621 (1) (a).
- Training to include hazard communication, safety, and the limitations, proper use, and maintenance of respirators in accordance with WAC 296-155-100.

In addition to the protective equipment and hygiene requirements, the employer must attempt to reduce the levels of airborne Lead (Pb) through the use of engineering controls such as ventilation and wet methods.

PUBLIC HEALTH

The owner should ensure that the general public will not have access to the site during demolition activities. In addition, controlling visible emissions (dust) will decrease the airborne concentration of Lead (Pb), thus decreasing the airborne exposure levels of the general public and potential contamination of surrounding areas from dust migration.

Poly Chlorinated Biphenyls (PCB)

Both the interior and exterior paint coating samples collected for suspect PCB from the subject structure were found to have PCB concentrations below the analytical limit of detection and below the EPA TSCA Bulk Solid Waste Limit of 50 PPM.

Based on the findings of the representative sampling, no regulated or hazardous PCB-containing materials will be impacted during the planned renovations of the subject structure.

7.0 LIMITATIONS OF SURVEY

The purpose of this Hazardous Materials Survey report is to document asbestos-containing materials, lead-containing paint coatings, and PCB containing materials at 401 E Alexander Avenue, Tacoma, WA 98421 on June 18, 2015.

The purpose of this inspection was to identify suspect building materials that would be impacted by the re-roofing, electrical and structural upgrade project. Destructive sampling methods were utilized to collect samples of suspect building materials. No soft/limited demolition was performed during this inspection. Hidden materials may exist within the structure, and all suspect materials must be treated as hazardous until laboratory testing proves otherwise.

This site visit consisted of a thorough visual walk-through of the building for the purpose of viewing and sampling potential asbestos-containing material. As hazardous material surveys are non-comprehensive by nature, NVL Laboratories, Inc. cannot be held liable for materials which require destructive means to access, materials which are hidden from sight (e.g. materials hidden behind walls), materials which cannot be found due to their obscure nature, or which otherwise cannot be discovered with reasonable diligence.

This document is the sole property of NVL Laboratories and the property owner, or his agent, authorizing this survey.

Inspected By

Tanveer Khan

Tanveer Khan
AHERA Building Inspector
AHERA Certification # 151522
Expiration Date May 19, 2015

Reviewed By

Syed Hasan
Manager Field Services
AHERA Certification 147944
Expiration Date August 13, 2015

Inspected By

Sam House
AHERA Building Inspector
AHERA Certification # 149604
Expiration Date December 31, 2015

Appendix A

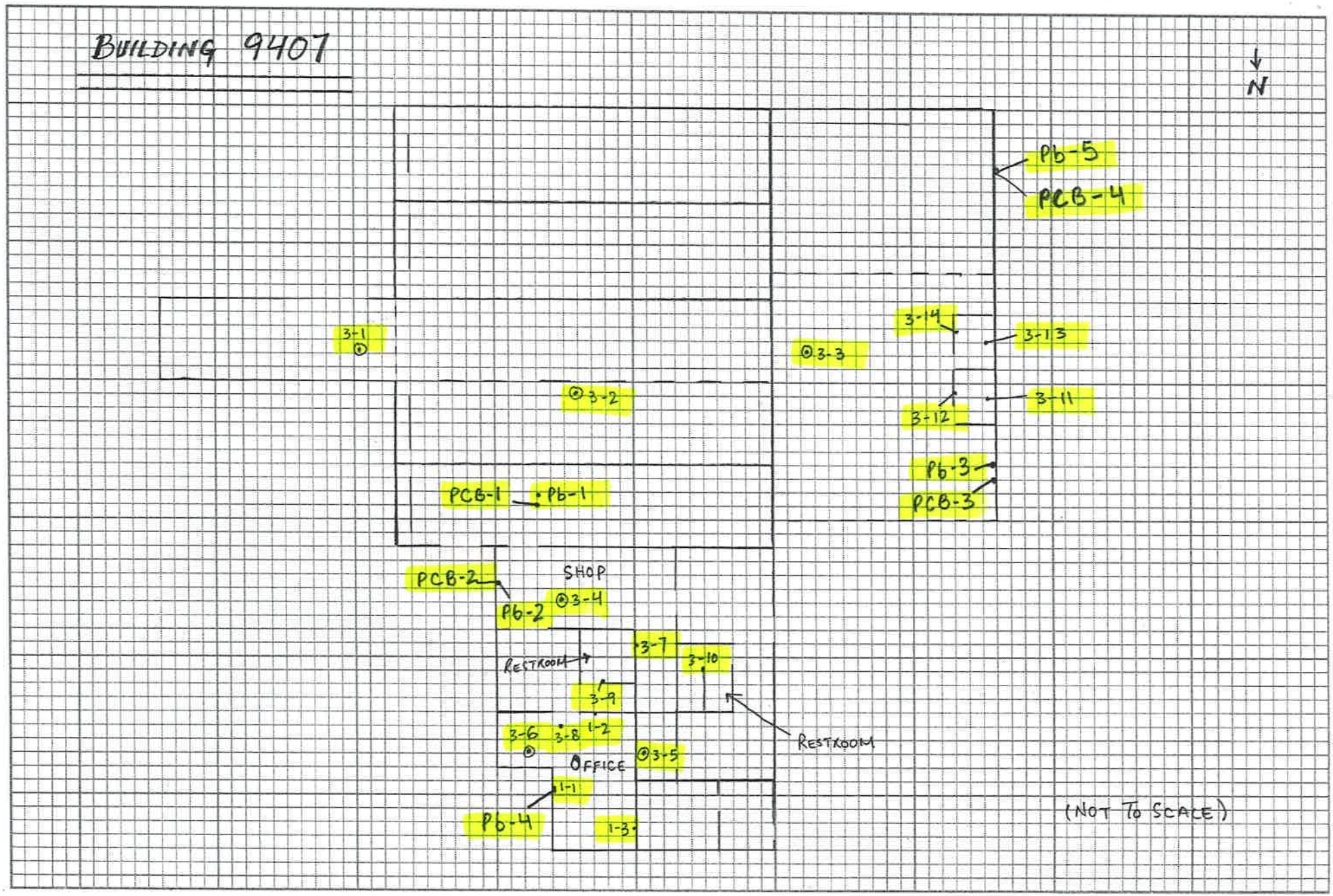
Sample Locations (Floor Plan)

NVL LABS
HAZARDOUS MATERIALS SERVICES

Location 401 E ALEXANDER AVE. TACOMA, WA 98421
Client DALTON, OLMSTED & FUGLEVAND, INC. – MATT DALTON

Page 1 of 1
Proj # 2015-522
Date JUNE 18, 2015
Made by TAN KHAN

BUILDING 9407



Appendix B

Laboratory Analysis Results

June 22, 2015

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Sam House
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1511089.00

Client Project: 2015-522
Location: 401 E. Alexander Ave. Tacoma, WA 98421

Dear Mr. House,

Enclosed please find test results for the 17 sample(s) submitted to our laboratory for analysis on 6/18/2015.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Munaf Khan, Laboratory Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 15061226 **Client Sample #: 2015-522-1-1**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 1	**Description:** White textured compacted powdery material with paint and paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Paint	Cellulose 45%	**None Detected ND**

Lab ID: 15061227 **Client Sample #: 2015-522-1-2**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** White textured compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Paint	None Detected ND	**None Detected ND**
Layer 2 of 2	**Description:** Tan/white paper with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Adhesive/Binder, Paint	Cellulose 95%	**None Detected ND**

Lab ID: 15061228 **Client Sample #: 2015-522-1-3**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** White textured compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Paint	None Detected ND	**None Detected ND**
Layer 2 of 2	**Description:** White compacted powdery material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Binder/Filler	Cellulose 40%	**None Detected ND**

Lab ID: 15061229 **Client Sample #: 2015-522-3-1**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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4708 Aurora Ave N, Seattle, WA 98103
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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** White /light gray material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Synthetic fibers 30%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Glass fibers 25%	**None Detected ND**

Lab ID: 15061230 **Client Sample #: 2015-522-3-2**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** White /light gray material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Synthetic fibers 25%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Glass fibers 35%	**None Detected ND**

Lab ID: 15061231 **Client Sample #: 2015-522-3-3**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** White /light gray material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Synthetic fibers 32%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Glass fibers 27%	**None Detected ND**

Lab ID: 15061232 **Client Sample #: 2015-522-3-4**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** White /light gray material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Synthetic fibers 28%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Glass fibers 35%	**None Detected ND**

Lab ID: 15061233 **Client Sample #: 2015-522-3-5**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** White /light gray material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Synthetic fibers 33%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Glass fibers 22%	**None Detected ND**

Lab ID: 15061234 **Client Sample #: 2015-522-3-6**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** White /light gray material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles	Synthetic fibers 26%	**None Detected ND**
Layer 2 of 2	**Description:** White chalky material with white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Glass fibers 30%	**None Detected ND**

Lab ID: 15061235 **Client Sample #: 2015-522-3-7**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 3	**Description:** White compacted powdery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Perlite	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Calcareous particles, Binder/Filler, Perlite	Cellulose	15%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	18%	**None Detected ND**
		Glass fibers	4%	

Lab ID: 15061236 **Client Sample #: 2015-522-3-8**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 1	**Description:** White chalky material with trace mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Fine particles, Gypsum/Binder, Mastic/Binder	Cellulose	1%	**None Detected ND**

Lab ID: 15061237 **Client Sample #: 2015-522-3-9**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** Dark brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Clear soft adhesive with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Adhesive/Binder, Paint	None Detected	ND	**None Detected ND**

Lab ID: 15061238 **Client Sample #: 2015-522-3-10**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 3	**Description:** Light gray rubbery material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Rubber/Binder	None Detected ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Calcareous particles	None Detected ND	**None Detected ND**
Layer 3 of 3	**Description:** White compacted powdery material with thin paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Binder/Filler, Perlite	None Detected ND	**None Detected ND**
	Paint		

Lab ID: 15061239 **Client Sample #: 2015-522-3-11**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 3	**Description:** Brown tile		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Vinyl/Binder, Calcareous particles	None Detected ND	**None Detected ND**
Layer 2 of 3	**Description:** Light yellow soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	None Detected ND	**None Detected ND**
Layer 3 of 3	**Description:** Trace white material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Binder/Filler, Mineral grains	None Detected ND	**None Detected ND**

Lab ID: 15061240 **Client Sample #: 2015-522-3-12**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 3	**Description:** Brown rubbery material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Rubber/Binder	None Detected ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Calcareous particles	None Detected ND	**None Detected ND**
Layer 3 of 3	**Description:** Brown /off-white paper with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Adhesive/Binder, Paint	Cellulose 94%	**None Detected ND**

Lab ID: 15061241 **Client Sample #: 2015-522-3-13**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 2	**Description:** Green tile		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles, Vinyl/Binder	None Detected ND	**None Detected ND**
Layer 2 of 2	**Description:** Yellow soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	Cellulose 3%	**None Detected ND**

Lab ID: 15061242 **Client Sample #: 2015-522-3-14**
Location: 409 E. Alexander Ave. Tacoma, WA 98421

Layer 1 of 3	**Description:** Beige rubbery material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Rubber/Binder	None Detected ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511089.00
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 17
Samples Analyzed: 17
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 3 of 3 **Description:** White compacted powdery material with paint and trace paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Binder/Filler, Perlite	Cellulose 6%	**None Detected ND**
Paint		

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 06/22/2015
Reviewed by: Munaf Khan **Date:** 06/22/2015

Munaf Khan, Laboratory Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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ASBESTOS LABORATORY SERVICES

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Sam House
Phone (206) 547-0100

NVL Batch Number **1511089.00**
TAT 2 Days **AH** No
Rush TAT
Due Date 6/22/2015 **Time** 3:00 PM
Email sam.h@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2015-522 **Project Location:** 401 E. Alexander Ave. Tacoma, WA 98421

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 17 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	15061226	2015-522-1-1		A
2	15061227	2015-522-1-2		A
3	15061228	2015-522-1-3		A
4	15061229	2015-522-3-1		A
5	15061230	2015-522-3-2		A
6	15061231	2015-522-3-3		A
7	15061232	2015-522-3-4		A
8	15061233	2015-522-3-5		A
9	15061234	2015-522-3-6		A
10	15061235	2015-522-3-7		A
11	15061236	2015-522-3-8		A
12	15061237	2015-522-3-9		A
13	15061238	2015-522-3-10		A
14	15061239	2015-522-3-11		A
15	15061240	2015-522-3-12		A
16	15061241	2015-522-3-13		A
17	15061242	2015-522-3-14		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Justin Shearer		NVL	6/18/15	1500
Analyzed by	Nadezhda		NVL	6/22/15	1:34 PM
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 6/18/2015
Time: 3:36 PM
Entered By: Maxwell Raymond

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CHAIN of CUSTODY SAMPLE LOG

1511089

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: 401 E Alexander Ave
Tacoma, WA 98421

NVL Batch Number:
Client Job Number: 2015-522
Total Samples: 17
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: mdalton@dofnw.com
Phone: Fax: Cell (206) 498-6616 Direct (360) 380-0862

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2015-522-1-1	STOP @ 1ST POS	
2		1-2		
3		1-3		
4		3-1		
5		3-2		
6		3-3		
7		3-4		
8		3-5		
9		3-6		
10		3-7	COMPOSITE	
11		3-8		
12		3-9		
13		3-10		
14		3-11		
15		3-12		

	Print Below	Sign Below	Company	Date	Time
Sampled by	Sam House		NVL	6-18-15	9:00AM
Relinquished by	Sam House		NVL	6-18-15	3:00PM
Received by	J. Shearer		NVL	6/18/15	1500
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to Sam / TAN

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

CHAIN of CUSTODY SAMPLE LOG

1511089

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: 401 E Alexander Ave
Tacoma, WA 98421

NVL Batch Number:
Client Job Number: 2015-522
Total Samples: 17

Turn Around Time: ☐ 1 Hr ☐ 2 Hrs ☐ 4 Hrs ☐ 6 Hrs ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days
Please call for TAT less than 24 Hrs

Email address: mdalton@dofnw.com
Phone: Fax: Cell (206) 498-6616 Direct (360) 380-0862

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☒ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2015-522-3-13		
2		3-14		
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Sam House		NVL	6-18-15	9:00AM
Relinquished by	Sam House		NVL	6-18-15	3:00PM
Received by	T. Ehrgott	Justin Shum	NVL	6/18/15	1500
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to Sam / TAN

NVL Laboratories, Inc.
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Analysis Report

Total Lead (Pb)

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Sam House
Project Location: 401 E. Alexander Ave. Tacoma, WA 98421

Batch #: 1511092.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 2015-522
Date Received: 6/18/2015
Samples Received: 5
Samples Analyzed: 5

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results In percent
15061252	2015-522-Pb-1	0.1956	49.0	390.0	0.0390
15061253	2015-522-Pb-2	0.1982	49.0	2900.0	0.2900
15061254	2015-522-Pb-3	0.2022	48.0	< 48.0	< 0.0048
15061255	2015-522-Pb-4	0.1196	81.0	< 81.0	< 0.0081
15061256	2015-522-Pb-5	0.1917	50.0	1800.0	0.1800

Sampled by: Client
Analyzed by: Yasuyuki Hida Date Analyzed: 06/19/2015
Reviewed by: Nick Ly Date Issued: 06/19/2015

Nick Ly, Technical Director

mg/ Kg =Milligrams per kilogram
Percent = Milligrams per kilogram / 10000
RL = Reporting Limit
'<' = Below the reporting Limit
Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 35-0618-6

NVL Laboratories, Inc.
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CHAIN of CUSTODY SAMPLE LOG

1511092

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: 401 E Alexander Ave
Tacoma, WA 98421

NVL Batch Number: _____
Client Job Number: 2015-522
Total Samples: 5
Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs
Email address: mdalton@dofnw.com
Phone: Fax: Cell (206) 498-6616 Direct (360) 380-0862

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☐ Asbestos Bulk	☐ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☒ Total Metals	☒ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☒ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☒ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2015-522-Pb1		
2		Pb-2		
3		Pb-3		
4		Pb-4		
5		Pb-5		
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Stu House		NVL	6-18-15	9:00AM
Relinquished by	Stu House		NVL	6-18-15	3:00PM
Received by	S. Shreves		NVL	6/18/15	1500
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to Stu / TAN

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

June 26, 2015

Mr. Sam House

NVL Field Services Division
4708 Aurora Ave. N.
Seattle, 98103

Re: **NVL Batch 1511091.00**

Project Name/Number: 2015-522

Project location: 401 E. Alexander Ave. Tacoma, WA 98421

Dear Mr. House,

Enclosed please find test results for samples submitted to our laboratory for analysis. Preparation and analysis of these samples were conducted in accordance with published industry standards and methods specified on the attached analytical report.

The content of this package consists of the following:

-Case Narrative & Definition of Data Qualifiers
-Analytical Test Results
-Applicable QC Summary
-Client Chain-of-Custody (CoC)
-NVL Receiving Record

The report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure: Sample Results

Case Narrative:

The following summarizes samples received on date as shown on the accompanied Chain of custody by NVL Laboratories, Inc. from NVL Field Services Division for Project number: 2015-522. Samples were logged in for PCB analysis per client request using both customer sample ID's and laboratory assigned ID's as listed on the Chain-of-Custody (CoC). All samples as received were processed and analyzed within specified turnaround time without any abnormalities and deviations that may affect the analytical results. All quality control requirements were acceptable unless stated otherwise. The conditions of all samples were acceptable at time of receipt and all samples submitted with this batch were analyzed unless stated otherwise on the CoC.

Test Results are reported based on milligram per kilogram (mg/kg) for PCB samples as shown on the analytical reports.

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Definition Appendix

Terms

% Rec	Percent recovery.
<	Below Reporting Limit(RL) or Limit of Quantitation(LoQ) of the Instrument.
B	Blank contamination. The recorded results is associated with a contaminated blank.
DF	Dilution Factor
J	The reported concentration is an estimated value because something may be present in the sample that interfered with the analysis.
J1	The reported concentration is an estimated value because the laboratory control sample (LCS) is out of control limits.
J2	The reported concentration is an estimated value because the percent recovery for matrix spike is out of control limits.
J3	The reported concentration is an estimated value because the relative percent difference(RPD) for duplicate analysis is out of control limits.
J4	Percent recovery is outside of established control limits.
LCS	Laboratory Control Sample.
Limits	The upper and lower control limits for spike recoveries.
LOQ	Limit of quantitation(same as RL)
mg/kg	Milligrams per kilogram.
ND	Analyte not detected or below the reporting limit of the instrument or methodology
PPM	Parts per Million.
QC Batch Group	Quality Control Batch Group. The entity that links analytical results and supporting quality control results.

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Definition Appendix

Terms

R	The data are not reliable due to possible contamination or loss of material during preparation or analysis. Re-sampling and reanalysis are necessary for verification.
RL	Reporting Limit. The minimum concentration that can be quantified under routine operating conditions.
RPD	Relative Percent Difference. The relative difference between duplicate results(matrix spike, blank spike, or samples duplicate) expressed as a percentage.
RPD Limit	The maximum RPD allowed for a set of duplicate measurements(see RPD).
SMI	Surrogate has matrix interference.
Spike Conc.	The measured concentration, in sample basis units, of a spiked sample.
SURR-ND	Surrogate was not detected due to matrix interference or dilution.
ug/m3	Micrograms per cubic meter.
ug/mL	Micrograms per milliliter
mg/Kg	milligram per kilogram

ORGANICS LABORATORY SERVICES

NVL LABS

Company	NVL Field Services Division	**NVL Batch Number**	**1511091.00**
Address	4708 Aurora Ave. N.	**TAT**	2 Days AH No
	Seattle. WA 98103	**Rush TAT**	
Project Manager	Mr. Sam House	**Due Date**	6/22/2015 **Time** 3:00 PM
Phone	(206) 547-0100	**Email**	sam.h@nvllabs.com
		Fax	(206) 634-1936

Project Name/Number: 2015-522 **Project Location:** 401 E. Alexander Ave. Tacoma, WA 98421

Subcategory Quantitative analysis

Item Code ORG-02 **Method** 8082 PCB Aroclors <Paint>

Total Number of Samples 4 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	15061248	2015-522-PCB-1		A
2	15061249	2015-522-PCB-2		A
3	15061250	2015-522-PCB-3		A
4	15061251	2015-522-PCB-4		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Justin Shearer		NVL	6/18/15	1500
Analyzed by	Evelyn Athmer		NVL	6/19/15	14:50
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Entered By: Maxwell Raymond Date: 6/18/2015 Time: 3:51 PM 1 of 1

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ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography

Client	**NVL Field Services Division**	Samples Received*	**4**
SDG Number	**1511091.00**	Analyzed By	**Evelyn Ahulu**
Date Reported	**06/26/2015**	Samples Analyzed*	**4**
Project Number	**2015-522**	Analysis Method	**8082A**
Location	**401 E. Alexander Ave. Tacoma, WA 98421**	Preparation Method	**3546PR (PCB)**

* for this test only

Sample Number	**2015-522-PCB-1**	Received	06/18/2015
Lab Sample ID	15061248	Matrix	Paint Chips
Initial Sample Size	1.2277 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	1.6	< 1.6	06/19/2015
Aroclor-1221	1.6	< 1.6	06/19/2015
Aroclor-1232	1.6	< 1.6	06/19/2015
Aroclor-1242	1.6	< 1.6	06/19/2015
Aroclor-1248	1.6	< 1.6	06/19/2015
Aroclor-1254	1.6	< 1.6	06/19/2015
Aroclor-1260	1.6	< 1.6	06/19/2015
PCBs, Total	**1.6**	**<1.6**	**06/19/2015**

Comments: Paint Chips

Sample Number	**2015-522-PCB-2**	Received	06/18/2015
Lab Sample ID	15061249	Matrix	Paint Chips
Initial Sample Size	2.0801 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	9.6	< 9.6	06/19/2015
Aroclor-1221	9.6	< 9.6	06/19/2015
Aroclor-1232	9.6	< 9.6	06/19/2015
Aroclor-1242	9.6	< 9.6	06/19/2015
Aroclor-1248	9.6	< 9.6	06/19/2015
Aroclor-1254	9.6	< 9.6	06/19/2015
Aroclor-1260	9.6	< 9.6	06/19/2015
PCBs, Total	**9.6**	**<9.6**	**06/19/2015**

Comments: Paint Chips. Reporting limit raised due to dilution (Interference).

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ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography

Sample Number	**2015-522-PCB-3**	Received	06/18/2015
Lab Sample ID	15061250	Matrix	Paint Chips
Initial Sample Size	2.0325 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.98	< 0.98	06/19/2015
Aroclor-1221	0.98	< 0.98	06/19/2015
Aroclor-1232	0.98	< 0.98	06/19/2015
Aroclor-1242	0.98	< 0.98	06/19/2015
Aroclor-1248	0.98	< 0.98	06/19/2015
Aroclor-1254	0.98	< 0.98	06/19/2015
Aroclor-1260	0.98	< 0.98	06/19/2015
PCBs, Total	**0.98**	**<0.98**	**06/19/2015**

Comments: Paint Chips

Sample Number	**2015-522-PCB-4**	Received	06/18/2015
Lab Sample ID	15061251	Matrix	Paint Chips
Initial Sample Size	2.0824 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	9.6	< 9.6	06/19/2015
Aroclor-1221	9.6	< 9.6	06/19/2015
Aroclor-1232	9.6	< 9.6	06/19/2015
Aroclor-1242	9.6	< 9.6	06/19/2015
Aroclor-1248	9.6	< 9.6	06/19/2015
Aroclor-1254	9.6	< 9.6	06/19/2015
Aroclor-1260	9.6	< 9.6	06/19/2015
PCBs, Total	**9.6**	**<9.6**	**06/19/2015**

Comments: Paint Chips. Reporting limit raised due to dilution (interference). Decachlorobiphenyl not reported due to interference.

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Quality Control Results

Project Number:	**2015-522**	**SDG Number:**	**1511091**
		Project Manager:	**Sam House**
QC Batch(es):	Q304	Analysis Method:	8082A
QC Batch Method:	3546PR (PCB)	Analysis Description:	Polychlorinated Biphenyls by Gas Chromatography
Preparation Date:	06/19/2015		

Blank: MBLK-1511091

Analyte	Blank Result	Units	DF	RL		Control Limit	Qualifiers
Aroclor-1016	ND	mg/Kg	1	1.0		1	
Aroclor-1221	ND	mg/Kg	1	1.0		1	
Aroclor-1232	ND	mg/Kg	1	1.0		1	
Aroclor-1242	ND	mg/Kg	1	1.0		1	
Aroclor-1248	ND	mg/Kg	1	1.0		1	
Aroclor-1254	ND	mg/Kg	1	1.0		1	
Aroclor-1260	ND	mg/Kg	1	1.0		1	
PCBs, Total	ND	mg/Kg	1	1.0		1	
Surrogates:					% Rec		
Tetrachloro-m-xylene			1		67	40-140	
Decachlorobiphenyl			1		92	40-140	

Lab Control Sample: MSPK-1511091

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	17.8	mg/Kg	1	20.0	89	40-140	
Surrogates:							
Tetrachloro-m-xylene			1		68	40-140	
Decachlorobiphenyl			1		85	40-140	

Lab Control Sample: LCS-1511091
Lab Control Sample Duplicate: LCS Dup-1511091

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	14.4	mg/Kg	1	20.0	72	40-140			
	16.1			20.0	80	40-140	11	50	
Aroclor-1260	21	mg/Kg	1	20.0	105	40-140			
	21.8			20.0	109	40-140	4	50	
Surrogates:									
Tetrachloro-m-xylene			1		64	40-140			
					81	40-140			
Decachlorobiphenyl			1		84	40-140			
					111	40-140			

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Surrogate Recovery Summary Report

Client NVL Field Services Division SDG Number 1511091

Project 2015-522

Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
2015-522-PCB-1	15061248	Decachlorobiphenyl	100%	40-140
2015-522-PCB-1	15061248	Tetrachloro-m-xylene	92%	40-140
2015-522-PCB-2	15061249	Decachlorobiphenyl	92%	40-140
2015-522-PCB-2	15061249	Tetrachloro-m-xylene	96%	40-140
2015-522-PCB-3	15061250	Decachlorobiphenyl	97%	40-140
2015-522-PCB-3	15061250	Tetrachloro-m-xylene	96%	40-140
2015-522-PCB-4	15061251	Tetrachloro-m-xylene	99%	40-140
LCS Dup-1511091	LCS Dup-1511091	Decachlorobiphenyl	111%	40-140
LCS Dup-1511091	LCS Dup-1511091	Tetrachloro-m-xylene	81%	40-140
LCS-1511091	LCS-1511091	Decachlorobiphenyl	84%	40-140
LCS-1511091	LCS-1511091	Tetrachloro-m-xylene	64%	40-140
MBLK-1511091	MBLK-1511091	Decachlorobiphenyl	92%	40-140
MBLK-1511091	MBLK-1511091	Tetrachloro-m-xylene	67%	40-140
MSPK-1511091	MSPK-1511091	Decachlorobiphenyl	85%	40-140
MSPK-1511091	MSPK-1511091	Tetrachloro-m-xylene	68%	40-140

* Recovery outside limits

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NVL LABS

INITIAL AND CONTINUING CALIBRATION VERIFICATION

SDG No: **1511091** Contract:

Determination: **8082 PCB Aroclors <Paint>**

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R000297	CCV1 1016-1260	PCB_2014-1-17	06/19/2015	Aroclor-1016	5	5	ug/mL	100	80-120
		PCB_2014-1-17	06/19/2015	Aroclor-1260	5	5	ug/mL	100	80-120
	CCV1 1254	PCB_2014-1-18	06/19/2015	Aroclor-1254	5	5	ug/mL	100	80-120
	ICV 1016-11254 -260	PCB_2014-2-4	06/19/2015	Aroclor-1016	5	4.503	ug/mL	90	85-115
		PCB_2014-2-4	06/19/2015	Aroclor-1254	5	5.513	ug/mL	110	85-115
		PCB_2014-2-4	06/19/2015	Aroclor-1260	5	5.428	ug/mL	109	85-115
	CCV2 1016 -1260	PCB_2014-1-17	06/19/2015	Aroclor-1016	5	5.142	ug/mL	103	80-120
		PCB_2014-1-17	06/19/2015	Aroclor-1260	5	5.331	ug/mL	107	80-120
	CCV2 1254	PCB_2014-1-18	06/19/2015	Aroclor-1254	5	5.427	ug/mL	109	80-120

% Rec = Percent recovery

* = Percent recovery not within control limits

NVL Laboratories, Inc.
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p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

CHAIN of CUSTODY SAMPLE LOG

1511091

NVL Batch Number

Client: NVL Laboratories Inc
Street: 4708 Aurora Ave N
Seattle, WA 98103
Project Manager: Syed Hasan
Project Location: 401 E Alexander Ave
Tacoma, WA 98421

Client Job Number: 2015-522
Total Samples: 4

Turn Around Time: ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Email address: mdalton@dofnw.com
Phone: Fax: Cell (206) 498-6616 Direct (360) 380-0862

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☐ Asbestos Bulk	☐ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☒ Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☒ Other (Specify) PCBs
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2015-522-PCB-1		
2		-2		
3		-3		
4		-4		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Sam House		NVL	6-18-15	9:00AM
Relinquished by	Sam House		NVL	6-18-15	3:00pm
Received by	J. Shearer		NVL	6/18/15	1500
Analyzed by	Evelyn Ambe		NVL	6/19/15	14:00
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to Sam | TAT

Appendix C

AHERA Certification & Laboratory Qualifications

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: 101861

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: 05/01/2017
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: 05/01/2017
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: 05/01/2017
☐	**FOOD**	Accreditation Expires:
✓	**UNIQUE SCOPES**	Accreditation Expires: 05/01/2017

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Gerald R Schultz

Gerald Schultz, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 14: 03/26/2014

Date Issued: 04/30/2015

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102063-0

NVL Laboratories, Inc.
Seattle, WA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2014-10-01 through 2015-09-30
Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103
Mr. Nghiep Vi Ly
Phone: 206-547-0100 Fax: 206-634-1936
E-Mail: nick.l@nvllabs.com
URL: http://www.nvllabs.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 102063-0**

NVLAP Code	*Designation / Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

2014-10-01 through 2015-09-30
Effective dates

For the National Institute of Standards and Technology

Certificate of Completion

This is to certify that

Tanveer E. Khan

has satisfactorily completed
4 hours of refresher training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)

151522
Certificate Number

Instructor

EPA Provider Cert. Number: 1085

ARGUS PACIFIC
TRAINING•CONSULTING

May 20, 2015
Date(s) of Training
Exam Score: NA
Expiration Date: May 19, 2016

Argus Pacific, Inc. • 1900 W. Nickerson, Suite 315 • Seattle, Washington • 98119 • 206.285.3373 • fax 206.285.3927

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Program

Tanveer Khan

Has fulfilled the certification requirements of Washington Administrative code (WAC) 365-230 and has been certified to conduct lead-based paint activities pursuant to WAC 365-230-200 as a:

Risk Assessor

Certification #	Issuance Date	Expiration Date
6110	12/12/2013	1/13/2017

Certificate of Completion

This certifies that

TANVEER KHAN

Has Successfully completed

8 Hour HAZWOPER Refresher Training

Refresher certification does NOT necessarily indicate initial 24 or 40 Hour HAZWOPER certification

In Accordance w/Federal OSHA Regulation 29 CFR 1910.120(e) & (p)

And all State OSHA and EPA Regulations As Well

This course is approved for 8 Contact Hours (0.8 CEUs) of continuing education per the California Department of Public Health for Registered Environmental Health Specialist (REHS) issued by Safety Unlimited, Inc. (Accreditation # 044)

Julius P. Griggs	1506145142778	6/14/2015
Julius P. Griggs Instructor #892	Certificate Number	Issue Date

SAFETY UNLIMITED, Inc.
OSHA Compliant Safety Training Since 1993

2139 Tapo St., Suite 228 Simi Valley, CA 93063
888 309-SAFE (7233) or 805 306-8027 866-869-7097 (fax)
www.safetyunlimited.com

Proof of initial certification and subsequent refresher training is NOT required to take refresher training
Want to be sure this certificate is valid? Visit safetyunlimited.com/verification

Certificate of Completion

This is to certify that

Samuel F. House

has satisfactorily completed
4 hours of refresher training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)

149604
Certificate Number

Instructor
EPA Provider Cert. Number: 1085

ARGUS PACIFIC
TRAINING • CONSULTING

Dec 31, 2014
Date(s) of Training
Exam Score: NA
Expiration Date: Dec 31, 2015

Argus Pacific, Inc. • 1900 W. Nickerson, Suite 315 • Seattle, Washington • 98119 • 206.285.3373 • fax 206.285.3927

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Program

Samuel F. House

Has fulfilled the certification requirements of Washington Administrative code (WAC) 365-230 and has been certified to conduct lead-based paint activities pursuant to WAC 365-230-200 as a:

Inspector

Certification #	Issuance Date	Expiration Date
6293	1/27/2014	2/09/2017

BIDDER'S NAME: _____

PROJECT TITLE: **401 Alexander Building 9407 Roof Replacement and Building Upgrades**

The undersigned Bidder declares that it has read the specifications, understands the conditions, has examined the site, and has determined for itself all situations affecting the work herein bid upon. Bidder proposes and agrees, if this proposal is accepted, to provide at Bidder's own expense, all labor, machinery, tools, materials, etc., including all work incidental to, or described or implied as incidental to such items, according to the contract documents of the Port of Tacoma, and that the Bidder will complete the work within the time stated, and that Bidder will accept in full payment therefore the lump sum or unit price(s) set forth below:

Proposed Bid Price. (Note: Show prices in figures only.) Complete installation:

Item No.	Description of Item	QTY	UOM	Unit Price	Extended Price
1	Mobilization and Demobilization	1	LS		
2	Roofing Replacement	1	LS		
3	2 x 6 Roof Decking	38,480	LF		
4	Exterior Envelope Repairs	1	LS		
5	Column Repair	12	EA		
6	Wall Girt Replacement	890	LF		
7	Beam Repair	960	LF		
8	Beam Replacement	500	LF		
				Base Bid Subtotal	

Evaluation of Bids. In accordance with the provisions of these Contract Documents, Bids will be evaluated to determine the lowest Base Bid Subtotal offered by a responsible Bidder submitting a responsive bid.

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

Principal Subcontractors/Suppliers. The bidder shall list below the name of each subcontractor or supplier to whom the bidder proposes to subcontract the portions of the work listed below, or name itself for the work.

Work to be Performed	**Name of Firm**
HVAC (Heating, Ventilation and Air Conditioning) Work	
Plumbing Work as described in RCW 18.106	
Electrical Work as described in RCW 19.28	

Bid Security. A certified check, cashier's check, or other obligation of a bank, or a bid security bond in substantially the form set forth in Section 00 43 13, Bid Security Form for at least 5% of the total bid without sales tax, accompanies this bid.

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	
Signature	By (Type or Print)	Title
Mailing Address	City, State	Zip Code
Telephone Number	Email Address	
WA State Contractor's License No.	Date of Issue	Expiration Date
Unified Business Identifier (UBI) No.	Employment Security Department No.	

Identification of Bidder as a sole proprietor, a partnership, a joint venture, a corporation, or another described form of legal entity

END OF SECTION

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 assigned, 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 TOTE Terminal Repairs 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

Project Title 401 Alexander Building 9407 Roof Replacement and Building Upgrades

Project No. 091362

Submitted By: _____

Contract No. 070129

Prime/Sub/Supplier: _____

Date: _____

Specification Title: _____

Section No. _____

Description: _____

Paragraph: _____

_____

Page No. _____

Proposed Substitution: _____

Trade Name: _____

Model No.: _____

Manufacturer: _____

Address: _____

Phone No.: _____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted By: _____

Signed By: _____ Firm: _____

Address: _____

_____

Telephone: _____ Email: _____

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other _____

ENGINEER'S REVIEW AND ACTION

☐ Substitution approved

☐ Substitution approved as noted

☐ Substitution rejected - Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

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 "**Project**" is: **401 Alexander Building 9407 Roof Replacement and Building Upgrades**
091362 & 070129 (Project &Contract No)
Port of Tacoma (Project Address)
Tacoma, Washington (Project Address 2)

The "**Engineer's representative**" is: _____ **(Representative)**
_____ (Title)
_____ (Email)
_____ (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 Work on the Project.

The Port publicly solicited bids on the Contract Documents. The Contractor submitted a bid to the Port on the _____ day of _____, 20___ to perform the 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 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.

3.0 CONTRACT TIME AND LIQUIDATED DAMAGES

The Contractor shall achieve all interim milestones as set forth in the Contract Documents and Substantial Completion of the entire Work not later than **120 calendar days** from contract execution, subject to adjustments of this Contract Time as provided in the Contract Documents. The Contractor shall achieve Final Completion of the Work within **30 calendar days** of the date on which Substantial Completion is achieved.

Provisions for liquidated damages as a reasonable estimate of future loss, as of the date of this Agreement, 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 by the prescribed date shall be **$500 per calendar day**. After the prescribed Final Completion date, the liquidated damages for failure to achieve Final Completion shall be **$100 per calendar day**.

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 herein, shall be levied for each and every calendar day that Substantial Completion and/or Final Completion of the work is delayed beyond the prescribed completion dates, or the completion dates modified by the Port for extensions of the contract 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.

This Agreement is entered into as of the day and year last written below:

CONTRACTOR		**PORT OF TACOMA**	
By:	_____	By:	_____
Title:	_____	Title:	_____
Date	_____	Date	_____

END OF SECTION

PERFORMANCE BOND # _____

CONTRACTOR (NAME AND ADDRESS)	**SURETY (NAME AND PRINCIPLE PLACE OF BUSINESS)**
OWNER (NAME AND ADDRESS)	**AGENT OR BROKER (FOR INFORMATION ONLY)**
PORT OF TACOMA	
P.O. BOX 1837	
TACOMA, WA 98401-1837	

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

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, attorneys 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	**CONTRACTOR**
_____	_____
Signature	Signature
_____	_____
Printed Name and Title	Printed Name and Title

Power of Attorney attached.

END OF SECTION

LABOR AND MATERIAL PAYMENT BOND #_____

CONTRACTOR (NAME AND ADDRESS)	**SURETY (NAME AND PRINCIPLE PLACE OF BUSINESS)**
OWNER (NAME AND ADDRESS)	**AGENT OR BROKER (FOR INFORMATION ONLY)**
PORT OF TACOMA	
P.O. BOX 1837	
TACOMA, WA 98401-1837	

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 has 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.

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	**CONTRACTOR**
_____	_____
Signature	Signature
_____	_____
Printed Name and Title	Printed Name and Title

Power of Attorney attached.

END OF SECTION

Bond No. _____

Project Title: _____

Master ID: _____

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 with 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.

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.

END OF SECTION

Project Title _____ **Project No.** _____

Submitted By: _____ Contract No. _____

Contractor: _____ Date: _____

Specification Title: _____ Section No. _____

Description: _____ Paragraph: _____

_____ Page No. _____

Proposed Substitution: _____

Trade Name: Model No.:

Manufacturer: _____

Address: _____ Phone No.: _____

Installer: _____

Address: _____ Phone No.: _____

History:

☐ New product ☐ 1-4 years old ☐ 5-10 years old ☐ More than 10 years old ☐ Other _____

Differences between proposed substitution and specified product: _____

☐ Point-by-point comparative data attached - REQUIRED

Reason for not providing specified item: _____

Similar Installation:

Project: _____ A/E _____

Address: _____

Owner: _____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

Savings to Port for accepting substitution: $_____

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____# of days.

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other _____

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted By: _____

Signed By: _____ Firm: _____

Address: _____

_____

Telephone: _____ Email: _____

Attachments: _____

_____

A/E's REVIEW AND RECOMMENDATION

☐ Approve Substitution
☐ Approve Substitution as noted
☐ Reject Substitution - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

ENGINEER'S REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures. Prepare Change Order.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures. Prepare Change Order.
☐ Substitution rejected - Use specified materials.

Signed by: _____ Date: _____

END OF SECTION

TABLE OF CONTENTS

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. The signed Agreement
2. Supplemental Conditions
3. General Conditions
4. Division 01 General Requirements of Specifications
5. All other Specifications, including all remaining divisions, material and system schedules and attachments, and Drawings
6. All other sections in Division 00 not specifically identified herein by Section.

B. 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.

C. 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.

D. 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.

E. 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.

B. 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.

E. 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. 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 Order. 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.

G. 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.

I. 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 Portand 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 ORDER, Force Account Order, 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
3. 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.

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 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 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. 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. 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.
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. 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 asbestos containing materials, lead containing products, mercury, 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 or the Subcontractor performing such Work.

b. If the Work involves transporting hazardous 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 of collision during transportation of hazardous materials or substances shall be required from the Contractor or the Subcontractor 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. 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.

D. 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. 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.

E. 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 coverage in the amounts of statutory limits. The Contractor shall bear all responsibility and shall indemnify and hold harmless the Port for any and all liability, cost and/or damages.

F. 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.

G. 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).

H. 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 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 of $25,000. 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.

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 4, 2015

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	Washington State Department of Labor and Industries
Address:	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. 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. 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. 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. 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.

H. 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.

I. 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.

J. 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 APPRENTICESHIP GOAL

A. The Contractor shall use best efforts and report apprentice participation in accordance with these Contract Documents or as otherwise required by law. Apprentice hours shall be performed by participants in training programs approved by the Washington State Apprenticeship and Training Council.

B. Unless the Contract Documents or applicable law requires higher levels of participation, if the initial Contract Sum is $1,000,000 or more, the Contractor shall use its best efforts to ensure that 15% of the labor hours on the Project are worked by apprentices. An apprentice shall be an individual who has signed a written apprenticeship agreement with and enrolled in a training program approved by the Washington State Apprenticeship and Training Council to learn a skilled craft or trade as an apprentice. For purposes of this Section, best efforts shall mean that the Contractor employs the strongest possible reasonable efforts to achieve the participation target.

C. The Contractor shall require each of its Subcontractors to comply with the requirements of this Section to the extent necessary to meet the participation goal. Where feasible, the Contractor shall ensure that apprentice hours worked are distributed among trades and/or crafts to be used on the Work.

D. The Contractor shall submit to the Port for approval its Apprentice Utilization Plan within ten days of Notice of Award.

1. An estimate of the total contract Labor Hours to be worked by the Contractor and all subcontractors;

2. The number of Apprentices and journey workers to be utilized;

3. Distribution of Apprentices utilization hours expected to be utilized by the Contractor and all proposed subcontractors on this Contract where feasible; and

4. The specific efforts proposed to be undertaken by the Contractor and all subcontractors to achieve the Goal.

E. The Contractor shall also submit to the Port a monthly statement of apprenticeship participation that identifies the individual name, apprentice level hours worked, and all other required information. The Contractor shall submit this report with each Application for Payment on the form provided in Specification Section 00 62 77.

F. Upon request of the Port, or at any time when the Contractor determines that it will be unable to meet the Goal, the Contractor shall provide written documentation to the Port of the Contractor's best efforts taken and a revised Apprentice Utilization Plan.

PART 2 – PRODUCTS

PART 3 – EXECUTION

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.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

A. The accompanying drawings and specifications show and describe the location and type of work to be performed under this project. Work is more specifically defined on the drawings listed in Section 00 01 15, LIST OF DRAWING SHEETS.

1. The work under this contract is to provide, furnish and install all labor, materials and equipment required to complete the work, installed, tested, and ready for use, and as described in these documents.

2. The building repairs consist of:

a. Repairs to roof purlins and decking

b. Demolition and Installation of roofing including anchors, gutters and bird deterrent system

c. Structural repairs to miscellaneous columns, beams and buttresses and siding.

1.02 LOCATION

A. The work is located at:

1. Building 9407 at 401 Alexander Avenue, Tacoma WA 98421

1.03 WORK PERFORMED UNDER SEPARATE CONTRACTS

A. The Contractor shall, by way of the Engineer, familiarize itself with other contracts which have been awarded, about to be awarded or are 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.

1. A project to perform electrical upgrades and fire sprinkler repairs will be occurring concurrently with this project. The project will be self-performed by Port Maintenance crews. The majority of the work is interior to Building 9407.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section specifies work sequence and constraints.

B. The purpose of the milestones, sequence and limitations of construction are to ensure that the Contractor understands the requirements and limitations on its work by the specific characteristics of the Contract, schedules and conducts work in a manner consistent with achieving these purposes, and complies with the construction schedule, the specific sequence, constraints, milestones and limitations of work specified.

C. Sequence of construction: Plan the sequence of construction to accommodate all the requirements of the specifications. The Contract Price shall include all specified requirements as described in this Section.

1.02 CONTRACTOR ACCESS AND USE OF PREMISES

A. Activity Regulations

1. Ensure Contractor personnel deployed to the project become familiar with and follow all regulations or restrictions established by the Engineer.

B. Occupied Building

1. The Contractor will be working in existing buildings which are occupied. The Contractor shall coordinate its activity with the Engineer so interferences with building tenants is minimized. Do not obstruct doors, drives, or egress paths without written permission from the Engineer. Prevent materials, debris, and moisture from entering occupied spaces. Access to interior spaces shall be coordinated through the Engineer with a minimum of three business days' notice. Interior access is limited to normal working hours, 7:00 am to 4:00 pm, Monday through Friday, unless otherwise authorized by the Engineer.

2 Protect materials and equipment in areas adjoining the immediate work area.

C. Work Site Regulations

1. Keep within the limits of work and assigned avenues of ingress and egress. Do not enter any areas outside the designated work location unless previously approved by the Engineer. The Contractor must comply with the following conditions:

a. Restore all common areas to a clean and useable condition that permits the resumption of Tenant operations after the Contractor ceases daily work.

b. Be responsible for control and security of Contractor-owned equipment and materials at the work site. Report to Port Security (phone (253) 383-9472) any missing/lost/stolen property.

c. Ensure all materials, tools and equipment will be removed from the site or secured within the designated laydown area at the end of each shift.

d. Contractor shall provide a minimum of 2 business days' notice to the Engineer before beginning any work resulting in utility interruptions or shutdowns.

e. Contractor shall provide a minimum of 2 business days' notice to the Engineer before conducting any work that requires movement of tenant equipment.

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.

B. Individual submittals are required in accordance with the pertinent sections of these Specifications

1.02 PAYMENT PROCEDURES

A. Pay estimates shall clearly identify the work performed for the given time period based on the approved Schedule of Values.

B. Prior to submitting a payment application, the Contractor and Engineer shall meet to review the work accomplished to determine the actual quantities or percentage of work completed to be billed for that pay period. The Contractor shall bring a copy of all documentation to the payment application meeting.

C. Following the meeting with the Engineer, the Contractor shall submit a 'DRAFT' payment application to the Engineer in an agreed upon format.

1. The Contractor shall submit to the Engineer all measurement documentation as referenced in these Contract documents; to include all measurement by weight, volume or field.

2. For all change work being done on a force account basis, the Contractor shall submit all Force Account back-up documentation as required to process the payment application where Force Account work is being billed.

3. Submit with the DRAFT payment application the following:

a. A list of subcontractors and suppliers used for the period covered by the payment application.

D. Following the Engineer's review and final approval, the Engineer will approve the DRAFT payment application and forward to the Contractor the 'Certification of Payment Form' for the Contractor's signature.

E. The Contractor shall sign the 'Certification of Payment Form' and submit it electronically using Adobe PDF file format to the Port at cpinvoices@portoftacoma.com along with any additional documentation required.

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.

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).

C. No separate payment will be made for any item that is not specifically set forth in the Bid Form, and all costs therefore shall be included in the prices named in the Bid Form for the various appurtenant items of work.

D. All other work not specifically mentioned in the measurement and payment sections identified below shall be considered incidental to the work performed and merged into the various unit and lump sum prices bid. Payment for work under one item will not be paid for under any other item.

E. The Port reserves the right to make changes should unforeseen conditions necessitate such changes. Where work is on a unit price basis, the actual quantities occasioned by such changes shall govern the compensation.

1.04 LUMP-SUM MEASUREMENT

A. Lump-sum measurement will be for the entire item, unit of Work, structure, or combination thereof, as specified and as indicated in the Contractor's submitted bid.

1. If the Contractor requests progress payments for lump-sum items, such progress payments will be made in accordance with an approved schedule of values. The quantity for payment for completed work shall be an estimated percentage of the lump sum amount, agreed to between the Engineer and Contractor, payable in monthly progress payments in increments proportional to the work performed in amounts as agreed between the Engineer and the Contractor.

1.05 MEASUREMENT OF QUANTITIES FOR UNIT PRICES

A. Measurement Standards:

1. All Work to be paid for at a contract price per unit measurement, as indicated in the Contractor's submitted bid, will be measured by the Engineer in accordance with United States Standard Measures.

B. Linear Measurement: Linear measurement will be by the linear dimension listed or indicated in the Contractor's submitted bid. Unless otherwise indicated, items, components, or Work to be measured on a linear basis will be measured at the centerline of the item in place.

C. Field Measurement for Payment:

1. The Contractor shall take all measurements by providing equipment, workers, and survey crews as required to measure quantities in accordance with the provisions for measurement specified herein. No allowance will be made for specified tolerances.

2. The Engineer will verify all quantities of Work performed by the Contractor on a unit-price basis, for progress payment purposes.

1.06 REJECTED, EXCESS, OR WASTED MATERIALS

A. Quantities of material wasted or disposed of in a manner not called for under the Contract; rejected loads of material, including material rejected after it has been placed by reasons of the failure of the Contractor to conform to the provisions of the Contract; material not unloaded from the transporting vehicle; material placed outside the lines indicated on the Contract Drawings or established by the Engineer; or material remaining on hand after completion of the Work, will not be paid for, and such quantities shall not be included in the final total quantities. No additional compensation will be permitted for loading, hauling, and disposing of rejected material.

1.07 MEASUREMENT AND PAYMENT

A. Item #1: Mobilization and Demobilization

1. Payment for MOBILIZATION AND DEMOBILIZATION shall be for preparatory work and operations performed by the Contractor including, but not limited to completion and submittal and approval of the following:

   a. All bonds and insurance certificates

   b. Health and Safety Plan (HASP)

   c. Initial Submittal Schedule

   d. Schedule of Values

   e. Detailed CPM progress schedule

   f. Spill Prevention, Control and Countermeasure (SPCC) Plan

   g. Submittal of Inspection and Test Plan

   h. Erosion and Sediment Control Plan

   i. Hazardous and Contaminated Substance Health and Safety Plan

   j. Establishing Contractor's Project Manager, Superintendent, and other required specified personnel on the Work site full time.

   k. Furnishing and installing all temporary facilities and controls as needed for the safe and proper completion of the work, including utilities, sanitary facilities, barriers and enclosures, fences, staging and entrance areas, and field offices, as specified.

   l. Mobilization onto the site required in support of the Contractor's first 30 days of operations.

2. Mobilization and Demobilization shall be paid at the lump sum price listed in the Contractor's submitted bid. Incremental payment shall be made for each location as follows:

   a. 40% after completion of 5% of the total contract amount of other bid items have been earned.

   b. 40% after completion of 20% of the total contract amount of other bid items have been earned.

   c. 20% after substantial completion has been issued by the Engineer.

B. Item #2: Roofing Replacement

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove the existing roofing down to the existing roof deck and install a complete roofing system, bird deterrent system, fall protection system, gutters, skylights and reconnect to existing downspouts.

2. Measurement: This item will be measured based on a percentage complete for the overall lump sum amount.

3. Payment: This item will be paid for at the Contract lump sum price as specified in the Contractor's submitted bid, in accordance with the approved Schedule of Values.

C. Item #3: 2 x 6 Roof Decking

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove the existing deteriorated 2 x 6 decking and replace with 2 x 6 decking.

2. Measurement: This item will be measured per linear foot.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

D. Item #4: Exterior Envelope Repairs

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove existing damaged metal siding and replace with metal siding and trim and provide waterproof membrane at base of wall.

2. Measurement: This item will be measured based on a percentage complete for the overall lump sum amount.

3. Payment: This item will be paid for at the Contract lump sum price as specified in the Contractor's submitted bid, in accordance with the approved Schedule of Values.

E. Item #5: Column Repair

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove existing damaged wood column and replace with tube steel post.

2. Measurement: This item will be measured per column.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

F. Item #6: Wall Girt Replacement

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove existing damaged wall girt and replace with wood wall girt and reconnect existing framing and siding.

2. Measurement: This item will be measured per lineal foot.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

G. Item #7: Beam Repair

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove portion of existing damaged wood beam and replace with 4 x 12 wood stiffener and lag bolts.

2. Measurement: This item will be measured per lineal foot.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

H. Item #8: Beam Replacement

1. The work of this section includes all tools, labor, equipment, materials, and appurtenances required to remove existing damaged roof wood beam and replace with 6 x 14 wood roof beam.

2. Measurement: This item will be measured per lineal foot.

3. Payment: This item will be paid for based on actual quantities for the period being billed.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXEUCTION - NOT USED

END OF SECTION

PART 1-GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Supplementary Conditions and Division 00 and 01 Specifications sections shall apply to all sections of the Contract Documents including specifications, drawings, 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, SUBSTITUTION REQUEST DURING CONSTRUCTION.

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 A/E 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.

4. 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 21 days prior to date required for preparation and review of related submittals.

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 21 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. Drawings and 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.

B. Related Requirements:

1. 00 72 00 – GENERAL CONDITIONS
2. 01 25 00 – SUBSTITUTION PROCEDURES DURING CONSTRUCTION
3. 01 30 00 – ADMINISTRATIVE REQUIREMENTS
4. 01 31 23 – WEB BASED CONSTRUCTION MANGEMENT

1.03 SUBMITTALS

A. If requested, the Contractor shall submit the following documentation to the Port:

1. 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.
    a. 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. 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.
    a. 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.

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 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. No later than 15 days following commencement of any additional Work, the Engineer shall prepare and issue to the Contractor a Change Order in accordance with the agreed upon terms and conditions, including any adjustment in the Contract Price and Contract Time.

b. 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.

1.08 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.

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.

PART 2 - PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes specifications for preparation, format, and submittal of Schedule of Values.

B. The Schedule of Values will establish unit prices for individual items of work.

C. The Schedule of Values will be the basis for payment of contract work.

1.02 PREPARATION

A. To facilitate monthly pay requests, develop the Schedule of Values based on the Contractor's submitted Bid. The schedule of Values shall be used to provide an allocation of the Work for measurement and payment to a level of detail to ensure accurate payment for the Work accomplished.

B. Obtain the agreement of the Engineer on the Schedule of Values. No payment will be made prior to an agreed upon Schedule of Values.

C. Include an updated version of the Schedule of Values as changes occur. Update the Schedule of Values to include:

1. Dollars earned and percent complete for the current progress payment period.
2. Dollars earned and percent complete to-date, excluding the current progress payment period.
3. Total dollars earned and percent complete to-date.
4. Total dollars remaining
5. Changes resulting from Change Orders

D. The total value of the line items in the Schedule of Values plus any approved Change Orders shall be equal to the current approved contract price.

E. The value of stored material shall be identified in the Schedule of Values with both a material-purchase activity and a separate corresponding installation activity in the Construction Schedule(s).

1.03 SUBMITTAL

A. Submit preliminary Schedule of Values within 10 days of the effective date of the Notice to Proceed.

B. Submit corrected Schedule of Values within 10 days upon receipt of reviewed Schedule of Values.

C. At the Engineer's request, submit documentation substantiating the cost allocations for line items within the Schedule of Values.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 SCHEDULE OF VALUES

A. Submit the Schedule of Values in a form acceptable to the Engineer.

B. Provide updated Schedule of Values as required by the Engineer and as indicated in the Contract Documents.

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).

B. The Contractor shall submit all pre-work submittals within 10 days of contract execution.

1. 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 potions.

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.

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.

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

- Review minutes of previous meeting.
- Review of work progress.
- Field observations, problems, and decisions.

- Identification of problems that impede planned progress.
- Maintenance of Progress Schedule (3 weeks ahead; 1 week back).
- Corrective measures to regain projected schedules.
- Planned progress during succeeding work period.
- Coordination of projected progress.
- Maintenance of quality and work standards.
- Effect of proposed changes on progress schedule and coordination.
- Demonstration that the project record drawings are up-to-date.
- Other business relating to the work.

C. Cost Meeting

1. A separate cost meeting may be set up by the Engineer to discuss RFI's (or any other issues) that may cause scope, schedule or monetary changes to the contracts in more detail then necessary at the progress meeting. The Engineer will arrange, host and provide an agenda for cost meetings. Attendees would include the Engineer, Contractor's job superintendent and others as invited.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Port and Contractor shall use the Port Contract Management application (Oracle Primavera Contract Management 13, herein after referred to as PCM) for electronic information exchange throughout the duration of the Contract as later described.

B. PCM is a web-based application accessed through the Port's web portal, "PoT Connect" (herein after referred to as Connect).

1. A Non-Disclosure Agreement (NDA) must be completed by the Contractor for each individual requesting PCM access through the Connect site.

2. The Contractor will receive separate user accounts for access to both the Port network (Connect), and PCM for each individual with a Port approved NDA.

C. The joint use of this system is to facilitate and coordinate the electronic exchange of Requests for Information, Submittals, and project specific correspondence.

1.02 RELATED SECTIONS

A. SECTION 01 33 00 – SUBMITTAL PROCEDURES

B. SECTION 01 26 13 – REQUEST FOR INFORMATION

1.03 USER ACCESS LIMITATIONS

A. Access to the Connect and PCM is granted by the Engineer.

B. Contractor's access to PCM is controlled by the Engineer.

1. The user assigned by the Contractor to use PCM shall be competent and experienced with the practices commonly employed in the industry for electronically submitting requests for information, submittals, product data, shop drawings and related items as required by the contract and the methods commonly used for project correspondence transmission and filing.

2. Any user assigned by the Contractor whom the Engineer determines is incapable of performing the prescribed tasks in an accurate, competent and efficient manner will be removed upon request from the Engineer. The qualifications and identity of a replacement user shall be submitted within 24 hours for consideration by the Engineer. Once accepted by the Engineer, the replacement user shall follow the NDA requirements of section 1.01B above and begin using PCM.

1.04 CONTRACTOR COMPUTER HARDWARE REQUIREMENTS

A. The Contractor is responsible for providing and maintaining the following:

1. Hardware and integrated software capable of running one of the following personal computer operating systems; Microsoft Windows XP, Win7, or Linux which fully supports the Java Runtime Environment (JRE).

1.05 CONTRACTOR COMPUTER SOFTWARE REQUIREMENTS

A. The Contractor is responsible for providing and maintaining the following:

1. A personal computer OS such as Microsoft Windows XP, Win7, or Linux that fully supports the Java Runtime Environment (JRE) 1.6.0-31 in the web browser.

2. A web browser such as Microsoft Explorer 9 for Windows XP through Win 8, Mozilla Firefox, Google Chrome or Opera for Windows XP and Win 7 or Linux for gaining access to Connect and PCM. Microsoft Windows 8 and 8.1 have limited support at this time.
3. An office suite that is Microsoft Office 2010 compatible for generation and manipulation of correspondence.
4. A program capable of editing, annotating and manipulating Adobe pdf files for inserting the Contractor's review stamp, clouding and adding notation to the files as necessary for review by the Engineer.
5. IT support capable of making, maintaining and troubleshooting connection to Connect and PCM and ensuring all computers are JAVA compatible.

1.06 CONTRACTOR RESPONSIBILITY

A. Provide all the equipment, internet connections, software, personnel and expertise required to support the use of PCM as described in the Contract documents.

B. Provide personnel competent in the use of PCM.

1.07 PORT RESPONSIBILITY

A. Provide the Contractor with all forms necessary for application to obtain permissions to access the Port network as described above.

B. Provide information, basic user guides and requirements on methods for using Connect and following Port specific PCM procedures.

C. Provide the Contractor with the user accounts to access Connect and PCM.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 UTILIZATION OF PCM

A. The Contractor shall provide required information in a timely manner that also supports the project schedule and meets the requirements of the Contract.

B. The Contractor shall provide and maintain competent and qualified personnel to perform the various tasks required to support the work within PCM which may include, but not be limited to the following Modules:

1. Communication Module for Correspondence Received, RFI's and Transmittals
2. Logs Module for Submittals Packages, Submittals and Punch Lists

C. The Port will not be liable for any delays associated from the usage of Connect or PCM including, but not limited to: slow response time, Port maintenance and off-line periods, connectivity problems or loss of information. Under no circumstances shall the usage of the Port web portal or PCM software be grounds for a time extension or cost adjustment to the contract.

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 5 days of execution 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.

1.04 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.

1.05 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.

D. 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.

1.06 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 ? 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. Rejected - 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. Contractor shall not claim delay or added timeline for Port 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 PCM software, to submit all shop drawings, catalog cuts, brochures including samples which must be hand-delivered. Notes, clouding, arrows or other post document generation notations must be applied directly into the electronic file using software designed for that purpose. Each submittal shall be accompanied by a transmittal

developed within the PCM software.

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. An example of the numbering protocol is given here for an Electrical Submittal “26 05 33-001- PVC Schedule 80 Conduit”. If something is rejected and needs resubmitted it gets resubmitted with the same number adding an R for revised or .1 but the submittal number stays the same ALWAYS.

C. Product submittals that cannot be accomplished electronically shall be accompanied by a printed version of the transmittal developed within PCM. These submittals will be hand delivered to the Port offices at One Sitcum Plaza, Attention: Engineering Department – Rick Unruh.

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. Contractor shall monitor soils, groundwater, and waste materials for indications of potentially hazardous, dangerous, and/or contaminated materials (suspicious material). Indicators of suspicious material include, but are not limited to refuse, oily sheen or coloring on soils 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.

1.02 SUBMITTALS

A. Prepare a Spill Prevention, Control and Countermeasure (SPCC) Plan prior to the start of any Work. Contractor may submit the Health and Safety Plan and SPCC Plan as one comprehensive document or may submit the plans as separate documents.

B. Provide a site specific Health and Safety Plan prior to the start of construction activity. The Health and Safety plan shall meet all the requirements of local, state and federal laws, rules and regulations. The Health and Safety Plan 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 sites illustrating the location of the anticipated hazards and areas of control for those hazards.
3. Hazardous material inventory and Safety Data Sheets (SDS's) 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 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 (submit as applicable):
    a. Lockout/Tagout;
    b. Fall Protection;
    c. Hot Work;
    d. Asbestos and lead hazards;
    e. Suspicious Materials and/or unidentified materials;
9. Exposure monitoring to be used to evaluate actual hazards compared with anticipated conditions.
10. Site housekeeping procedures and personal hygiene practices.

11. Railroad safety procedures.
12. Administrative controls.
13. Emergency plan including locations of and route to nearest hospital.
14. Record keeping including:
    a. Documentation of appropriate employee training.
15. Name and qualification of person preparing the Health and Safety Plan and person designated to implement and enforce the plan.
16. Signatory page for site personnel to acknowledge receipt, understanding, and agreement to comply with the plan.

1.03 POTENTIAL CHEMICAL HAZARDS

A. Site Contaminants

1. Provide site workers with Hazard Communication standard information for potential site contaminants (in accordance with WAC 296-800-170). 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 Health and Safety Plan requirements as noted in WAC 296-800-170 and 296-843-120. Workers shall be instructed on basic methods or techniques to assist in detecting suspicious material.

B. Potential Exposures Routes

1. Inhalation
2. Skin and Eye Contact
3. Ingestion

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 Health and Safety Plan.

B. Specific aspects of construction resulting in physical hazards anticipated for this project included, but are not limited to the following:

1. Fall Protection

C. Other anticipated physical hazards:

1. Heat stress
2. Cold stress
3. Biological hazards
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. For 'hot' work operations, the firewatch is to be maintained for at least 120 minutes after completion of cutting, welding, or other open flame operations 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 PRODUCTS SPECIFIED FOR HEALTH AND SAFETY

A. Provide the equipment and supplies necessary to support the work as described in the site-specific Health and Safety Plan. 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. Fencing and barriers;
    4. Warning signs and labels;
    5. Fire extinguishers;
    6. Equipment to support 'hot' work;
    7. Equipment to support lock out/tag out procedures;
    8. Scaffolding and fall protection equipment;
    9. Personal protective equipment (hard hats, foot gear, skin, eye, and respiratory protection);
    10. Demolition equipment and supplies;
    11. First aid equipment
    12. Release prevention equipment; and
    13. 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 hazardous materials, equipment, soils and groundwater at the project site.

C. 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.

D. Accidents causing death, injuries, or damage shall 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.

E. 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.

F. Engineer's review of Contractor's performance does not include a opinion regarding the adequacy of, or approval of, Contractor's safety supervisor, the site specific Health and Safety Plan, safety program, or safety measures taken in, at, or near the construction site.

3.02 SITE SAFETY AND HEALTH OFFICER

A. Provide a person designated as the Site Safety and Health Officer, who is thoroughly trained in rescue procedures, HAZWOPER, and the use of all necessary safety equipment, air monitoring equipment, and gas detectors. The person must be 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 SPILL PREVENTION AND CONTROL

A. The Contractor shall be responsible for prevention, containment and cleanup of oil petroleum products, or chemicals 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, petroleum products, or chemicals 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, petroleum products or chemicals into the waters, or onto land with potential for entry into waters, containment and cleanup efforts shall begin immediately and shall be completed as soon as possible, taking precedence over normal work.

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 oil and product storage tanks shall be diked, contained and/or located so as to prevent spills from escaping into the water. Diking and containment area surfaces shall be lined with impervious material to prevent 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, ground clay, 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 product discharges into public waters, or onto land with a potential for entry into public waters, in addition to agency notification required by applicable local, state or federal laws regulations, Contractor shall immediately notify Port Security at their listed 24-hour response number:

a. Port Security: (253) 383-9472

E. Contractor shall maintain the following materials (as a minimum) at each of the project sites:

1. Oil-absorbent pads or bulk material, adequate for coverage of 200 square feet of surface area.

2. Oil dry all, gloves and plastic bags.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section discloses procedures to follow if suspected and/or previously unidentified regulated materials are encountered.

1.02 NOTIFICATION AND SUSPENSION

A. 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. 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. 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 >= 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. 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.

1.02 TEMPORARY UTILITIES

A. The Contractor will be permitted use of building water and electricity so long as use does not impact tenant use. Coordinate access with the Engineer.

B. 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 crews at time of project mobilization.

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. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING

A. Provide 6-foot high fence around laydown area; equip with vehicular gates with locks.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

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

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

D. 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. Flares and lights.

E. Haul routes.

F. Mud from site vehicles.

PART 2 - PRODUCTS – NOT USED

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 access point assigned by the Engineer.

1. The Contractor may be required to relocate entry and related work areas as required by Port or Tenant Operations at no additional cost to the Port.

B. Provide unimpeded access for emergency vehicles. Maintain 20 foot 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. The Contractor will be allowed space for the storage of materials, equipment and employee parking as shown on the drawings. Employee parking shall be confined to the Contractor's work and storage area.

3.04 CONSTRUCTION PARKING CONTROL

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Port/Tenant operations.

B. Prevent parking on or adjacent to access roads or in non-designated areas.

3.05 FLARES AND LIGHTS

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

B. Use flashing yellow strobe lights on all vehicles within terminals.

3.06 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.

B. 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 SECTION INCLUDES

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. A Construction Stormwater Pollution Prevention Plan (SWPPP) short form template is available to the Contractor. This template has been prepared by the Port as part of the National Pollution Discharge Elimination System (NPDES) stormwater permit requirements for the project site. The SWPPP short form template is provided as attachment A to this Section 01 57 13. The Contractor may use the short form template to prepare a project-specific SWPPP to meet or exceed the control measures required by the Washington Department of Ecology (Ecology). The SWPPP describes the proposed construction activities and all Temporary and Permanent Erosion and Sediment Control (ESC) measures, pollution prevention measures, inspection/monitoring activities, and recordkeeping that will be implemented during the proposed construction project.

   1. The SWPPP short form consists of planning, installing, inspecting, maintaining, and removing TESC BMPs per Ecology's Volume II of the Stormwater Management Manual for Western Washington (2012). The BMPs are designed 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.

C. 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

D. 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.).

E. For this Work, the Contractor shall read and conform to requirements set forth in Ecology's NPDES Phase I Municipal Stormwater Permit.

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 State Department of Transportation, 2012 Standard Specification M41-10, Division 8-01 Erosion Control and Water Pollution Control.
   3. City of Tacoma, "Surface Water Management Manual," Tacoma Public Works, Environmental Services, February 2012.

1.03 SUBMITTALS

A. A Construction SWPPP short form, or equivalent, as required by the NPDES permit shall

include TESC requirements stated in Section 3.02 below.

B. Safety Data Sheet (SDS) for any dust palliative product.

1.04 AUTHORITY OF ENGINEER

A. 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 situation is rectified.

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. The 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.

C. The 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. The Contractor is responsible for developing the TESC BMPs and incorporating them into the SWPPP short form. The Contractor shall address the following issues as part of developing and implementing the BMPs.

1. During the construction period the Contractor shall, at no additional cost to the Port, upgrade the TESC measures as needed for unexpected storm events and modify these measures for changing site conditions (such as relocation of ditches and silt fences, etc.) and update the SWPPP short form to document the modifications made.

B. Narrative: If the SWPPP Short Form included as Appendix A is not used, the Contractor’s proposed plan shall, at a minimum, address all topics included on the short form in Appendix A.

3.03 TEMPORARY EROSION AND SEDIMENT CONTROL IMPLEMENTATION

A. The Contractor is responsible for implementing and updating the SWPPP short form including TESC BMPs.

B. The Contractor shall inspect the TESC measures daily and maintain these measures to ensure continued proper functioning during the construction period.

C. Any areas of exposed soils, including embankments, which will not be disturbed for two days during the wet season or seven days during the dry season, shall immediately be stabilized by the Contractor with the approved TESC measure (seeding, mulching, plastic covering, etc.).

D. Any areas needing TESC measures not requiring immediate attention shall be addressed by the Contractor at the Port's discretion.

E. The TESC measures in an inactive site shall be inspected and maintained by the Contractor until the site is permanently stabilized. Catch basins must be cleaned when the depth of debris reaches 60% of the sump depth or the debris surface is six (6) inches below the outlet pipe. All

catch basins, manholes, and conveyance lines, if present, shall be cleaned by the Contractor at the completion of the project. The cleaning process shall not flush sediment-laden water into any downstream system.

F. The Contractor shall ensure that water, or a dust palliative and a dispensing subcontractor, if needed, is available 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.

G. In the event that additional 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.

H. Prior to final payment, all TESC measures shall be removed upon final completion of the Work.

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.

The City's govMe site (*http://www.govme.org*.) may be used to find much of the information needed to complete this form, such as adjacent areas, topography, critical areas, the downstream drainage path, and information concerning onsite features.

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**

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. (see page 5 for Site Plan requirements)

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. All other dewatering water shall be pumped to a settling container and taken offsite or discharged to the City sewer system. All discharges to the City sewer system require City approval, which may include a Special Approved Discharge (SAD) permit.

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.

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 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 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.

3.03 CUTTING AND PATCHING

A. Perform whatever cutting and patching is necessary to:

1. Complete the work.
2. Fit products together to integrate with other work.
3. Match work that has been cut to adjacent work.
4. Repair areas adjacent to cuts to required condition.
5. Repair new work damaged by subsequent work.

B. 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.

C. Restore work with new products in accordance with requirements of Contract Documents.

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 degrees 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. 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 01 74 19.

E. 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.

F. 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, of rubbish, waste material, litter, and other foreign substances.

b. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.

d. Remove tools, construction equipment, machinery, and surplus material from Project site.

j. Leave Project clean and ready for occupancy.

C. Construction-waste Disposal: Comply with waste disposal requirements in Section 01 74 19.

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.

1. Touch up and otherwise repair and restore marred or exposed finishes and surface. Replace finishes and surfaces that that already show evidence of repair or restoration.

a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

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 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 if specified in this section.

1.03 DESCRIPTION OF WORK

A. The work includes demolition and removal within the project areas as shown on the drawings. The work also includes waste generated by construction activities, materials, packaging, scraps, and garbage.

1.04 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.

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.

1.05 SUBMITTALS

A. Waste Management Plan

B. Waste Management Final Report

1.06 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. Concrete and concrete masonry units
3. Ferrous and non-ferrous metals
4. Field office waste paper, aluminum cans, glass, plastic, and cardboard

C. Hazardous/Dangerous Wastes, and other hazardous materials such as paints, solvents, and adhesives shall be disposed of at applicable permitted facilities.

1.07 WASTE MANAGEMENT PLAN

A. Submit a Waste Management Plan within 10 days after the notice to proceed and not less than 5 days before any demolition activities 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 Waste Management Coordinator.
2. A list of waste materials, including estimated types and quantities, of the waste that will be generated. Indicate salvaged for resale, salvaged for reuse, recycled, or disposed for each item.
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.
    e. Method 5 - Contractor or subcontractor hauls waste to an approved disposal facility.
4. Identification of each recycling, disposal, 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.

7. Actions that will be taken to reduce solid waste generation.

C. Revise and resubmit Waste Management plan as required by the Engineer. Approval of the Contractor's Plan does not relieve the Contractor of responsibility for compliance with all applicable laws and regulations. Distribute copies of the Waste Management Plan to each subcontractor.

1.08 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.

1.09 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 WASTE DISPOSAL

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

B. Co-Mingled CDL Recycling: Provide containers for co-mingled CDL waste to be recycled, clearly labeled with a list of acceptable and unacceptable materials.

C. Landfill: Provide containers for CDL waste that is to be disposed of in a landfill clearly labeled as such.

D. Removal of CDL Waste from Project Site: Transport CDL waste off Port's property and provide legal disposal.

END OF SECTION

PART 1 - GENERAL

1.01 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

1.02 ACTION SUBMITTALS

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

1.03 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.

1.04 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.
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. Complete startup and testing of systems and equipment
2. Perform preventive maintenance on equipment used prior to Substantial Completion
3. Instruct Port's personnel in operation, adjustment, and maintenance of products, equipment, and systems
4. Terminate and remove temporary facilities from Project site
5. Complete final cleaning requirements

D. Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to 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.

1.05 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.

1.06 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 10 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.

1.07 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 the companies will submit an approved Affidavit of Wages paid to the Port within 30 days.

B. 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.

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 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Mounting Stanchions/Brackets Fabrication and Installation.

B. Roof Anchor Base Plate and Fabrication (Roof Anchor Post is specified in Section 11 24 33, ROOF ANCHORS).

C. Prefinished Metal Stair Treads and Prefinished Metal Stair Landing Planks.

D. Miscellaneous Metal Fabrications (Structural and Non-Structural).

1.03 REFERENCES

A. References shall be the latest adopted edition.

1. American Society for Testing and Materials (ASTM):

a. ASTM A36 – Standard Specification for Carbon Structural Steel

b. ASTM A53 – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

c. ASTM A123 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

d. ASTM A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

e. ASTM A283 – Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates

f. ASTM A325 – Standard Specification for Structural Bolts, Steel, Heat Treated, 120 / 105 ksi Minimum Tensile Strength

g. ASTM A500 – Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

2. American Welding Society (AWS):

a. AWS D1.1 – Structural Welding Code - Steel

b. AWS D1.4 – Structural Welding Code – Reinforcing Steel

3. The Society for Protective Coatings (SSPC):

a. SSPC (PM2) – Painting Manual, Vol. 2, Systems and Specifications

1.04 SUBMITTALS

A. Refer to Division 1 for submittal procedures.

B. Shop Drawings: Submit shop drawings prepared by a professional steel detailer showing each metal fabrication; indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners and accessories. Include erection drawings, elevations and details where applicable.

C. Product Data: Submit manufacturer's data sheet and standard details for the Prefinished Metal

Stair Treads and Prefinished Metal Stair Landing Planks product specified.

D. Welder Certification: Submit proof of welder(s) qualifications/certifications.

1.05 QUALITY ASSURANCE

A. Welders: Qualified within the previous 12 months for type of welding required for this project in accordance with AWS D1.1 and AWS D1.4 and Washington Association of Building Officials (WABO) certified as required by local Building Official having jurisdiction on this project.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Solid Steel Bars, Plates and Shapes: ASTM A36

B. Tube Steel: ASTM A500, Grade B

C. Plates: ASTM A283

D. Pipe: ASTM A53, Grade B Schedule 40, black finish

E. Prefinished Metal Stair Treads and Prefinished Metal Stair Landing Planks: *Traction Tread Plank Treads (M2T2201336)* manufactured by McNichols.

1. Size: 12-inch wide, 2-inch channel, 13 gauge, length as noted on Drawings.

2. Attachment Hardware: Manufacturer's standard mounting angles/brackets for attaching treads to wood stair stringers.

3. Fasteners: Stainless Steel.

4. Finish: Manufacturer's standard powder coated finish. Color to be selected from the manufacturer's standard color options.

F. Bolts, Nuts and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.

G. Welding Materials: AWS D1.1; type required for materials being welded.

H. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Tnemec *PerimePrime Series 394* or approved equal.

2.02 FABRICATION

A. Coordinate and confirm field dimensions and conditions prior to fabrication.

B. Fit and shop assemble items in largest practical sections, for delivery to site.

C. Fabricate items with joints tightly fitted and secured.

D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush and hairline. Ease exposed edges to small uniform radius.

E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS

A. Mounting Stanchions and Brackets: Fabricate from steel plates and pipes to sizes, shapes and profiles indicated on the Drawings.

1. Coordinate the fabrication with the posts supplied by Section 10 81 13, BIRD CONTROL DEIVCES for the Post and Wire Grid Seagull Bird Deterrent System.

2. Provide continuous welds to join pieces together, grind welds flush and smooth.
3. Cut, drill and tap units to receive hangers, hardware and similar items.
4. Hot-dip galvanize bracket and stanchion steel components after fabrication. Drill holes for galvanizing in concealed location on underside.
5. Apply shop applied paint finish to bracket and stanchion steel components after hot-dip galvanizing.
6. Provide stainless steel lag bolts for fastening to roof deck.

B. Roof Anchor Base Plate: Fabricate from steel plate to size and configuration shown on the Drawings.
1. Drill holes in base plate for bolted attachment as shown on the Drawings.
2. Weld the roof anchor post supplied by Section 11 24 33 ROOF ANCHORS to the base plate as shown on the drawings.
3. Hot-dip galvanize roof anchor after fabrication. Drill holes for galvanizing in concealed location on underside where not exposed to weather.
4. Apply shop applied paint finish to roof anchor after hot-dip galvanizing.
5. Deliver roof anchor fabrication to Section 11 24 33 ROOF ANCHORS for installation.

C. Miscellaneous Framing and Supports: Fabricate from structural steel shapes, plates and bars, of welded construction to sizes, shapes and profiles indicated and required, to receive other adjacent construction retained by framing and supports.
1. Use mitered joints for field connection.
2. Cut, drill and tap units to receive hangers, hardware and similar items.
3. Hot-dip galvanize items on building exterior, exposed to exterior atmosphere or so indicated on the Drawings; prime paint other items.
4. Apply shop applied paint finish to items after hot-dip galvanizing.

D. Other Miscellaneous Fabricated Steel Items Shown on the Drawings: Fabricate as shown.
1. Steel Columns: Field paint as specified in Section 09 90 00, PAINTS AND COATINGS.

2.04 FINISHES - STEEL

A. Galvanizing:
1. Fabricated Items: Hot-dip galvanize after fabrication in conformance with ASTM A123. Provide minimum 2.0 oz/sq ft galvanized coating.
2. Fasteners/Hardware: Hot-dip galvanize after fabrication in conformance with ASTM A153.

B. Field/Shop Painting of Exposed Galvanized Fabrications on the Exterior of the Building: Paint as specified in Section 09 90 00. PAINTS AND COATINGS.
1. Galvanized fabrications and fasteners exposed on the exterior of the building shall be painted.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are

affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

3.02 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Beginning installation indicates installer's acceptance of conditions.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Fasten securely to structure.

C. Touch up damaged areas of galvanized finish on fabrications with touch up primer.

D. Column Posts: Install items accurately fitted as shown on Drawings, Free from distortion or defects.

E. Post and Wire Grid Seagull Bird Deterrent System: Installation is specified in Section 10 81 13, BIRD CONTROL DEVICES.

F. Roof Anchors: Installation is specified in Section 11 24 33, ROOF ANCHORS.

G. Prefinished Metal Stair Treads and Prefinished Metal Stair Landing Planks: Install as recommended by the manufacturer and as shown on the Drawings. Install treads and planks level and accurately fitted.

3.04 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Custom Fabricated Welded Steel Handrails.

1.03 REFERENCES

A. References shall be the latest adopted edition.

1. American Society for Testing and Materials (ASTM):

a. ASTM A36 – Standard Specification for Carbon Structural Steel.

b. ASTM A53 – Standard Specification for Pipe, Steel, Black and Hot Dipped, Zinc Coated, Welded and Seamless.

c. ASTM A123 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

d. ASTM A500 – Standard Specification for Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

2. International Building Code (IBC).

3. The Society for Protective Coatings (SSPC):

a. SSPC (PM2) – Painting Manual, Vol. 2, Systems and Specifications.

1.04 SUBMITTALS

A. Refer to Division 1 for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.05 REGULATORY REQUIREMENTS

A. Conform to handrail requirements in Sections 1012, 1013 and 1607.8.1 of the IBC.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Steel Tubing: Conform to ASTM A500, Grade B, descaled.

B. Steel Pipe: ASTM A53, Grade B, Schedule 40, black finish.

C. Solid Steel Bars, Plates and Shapes: Conform to ASTM A36.

D. Fittings: Forged steel elbows, T-shapes, wall brackets, escutcheons; same material and outside diameter as pipe / tubing.

E. Pipe Handrail Wall Mounting Bracket: Custom fabrication as shown on Drawings.

F. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing. Fasteners shall be stainless steel. Galvanized fasteners are not acceptable.

G. Galvanizing: ASTM A123, minimum 2.0 oz / sq ft galvanized coating.

H. Galvanizing Repair Paint: 93% to 95% metallic zinc rich paint in color matching color of hot

dipped galvanizing; Crown Cold Galvanizing Compound, ZRC Cold Galvanizing Compound or similar.

I. Shop and Touch-Up Primer: Tnemec PerimePrime Series 394 or approved equal.

2.02 FABRICATION

A. General: Custom fabricated handrails; comply with the following:

1. Verify field dimensions and conditions on site prior to fabrication.

b. Coordinate layout / location of handrail wall mounting brackets with framing of wood guardrails specified in Section 06 10 00, CARPENTRY.

2. Fit and shop assemble components in largest practical sizes for delivery to site.

3. Fabricate components with joints tightly fitted and secured.

4. Provide components necessary for assembly of railings and for attachment to other work.

5. Exposed Mechanical Fastenings: Allowed only for connections to building structure. Provide bolts to secure handrail bracket to guardrail framing.

6. Welds Use welding equipment / technique that provides a clean, neat, weld bead of consistent width and appearance, with low profile, edges feathered into adjacent metal, no splatter, no voids, holes or porosity, and a smooth surface finish.

a. Provide continuous welds the full length / circumference of pieces being connected, no stitch welds where exposed to view.

b. Weld shall fill joint completely free of any voids, holes or porosity.

7. Grind exposed joints flush and smooth with adjacent finish surface.

8. Make exposed joints butt tight, flush, and hairline.

9. Ease exposed edges to small uniform radius.

10. Accurately form components to suit specific project conditions and for proper connection to wood guardrail.

11. Exterior Components: Continuously seal joined pieces by continuous welds.

a. Drill drainage holes concealed at bottom of members at locations that will not encourage water intrusion.

B. Steel Handrail:

1. Custom fabricate from steel members shown on Drawings, to configuration and dimensions shown and conforming to code requirements.

2. Handrail Diameter: 1.5 inch inside diameter (1.9 inch outside diameter).

3. Handrail Returns: Provide elbow fitting returns to wall or post at ends of all handrails unless specifically shown differently; cap end of handrails that are exposed to view as described for exposed ends below.

4. Tees and Cross Intersections: Coped and welded full circumference, grind welds flush and smooth.

5. Elbows: Prefabricated radius bend fittings only, angled miter cuts are not allowed, weld full circumference, grind welds flush and smooth.

6. Exposed Ends: Close with prefabricated fittings or with 3/16 inch thick steel plate, weld

full circumference, grind welds flush and smooth.

7. Handrail Support Bracket: Fabricate from materials and to configuration shown on the Drawings.

   a. Locate at no more than 60 inches intervals and within 8 inches of each end, coordinated to provide secure attachment to guardrail post or other structural support.

2.03 FINISHES - STEEL

A. Shop Prime Paint: Shop prime fabrications for field painting by Section 09 90 00, PAINTS AND COATING.

1. Prepare surfaces to be primed in accordance with paint manufacturer's recommendations and SSPC SP-6.

2. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

3. Apply one coat of prime paint in conformance with manufacturer's installation instructions and recommended application rates.

4. Protection: Protect finished surfaces from damage during shipping and handling.

B. Galvanizing of Handrail Assemblies: Hot-dip galvanize items on building exterior.

1. Galvanize after fabrication to ASTM A123. Provide minimum 2.0 oz / sq ft galvanized coating.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate layout of guardrail posts for handrail mounting brackets with Section 06 10 00, CARPENTRY.

3.02 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

B. Beginning installation indicates installer's acceptance of conditions.

3.03 INSTALLATION

A. Install components plumb, straight and level (as applicable), accurately fitted, free from distortion or defects.

B. Anchor handrail and handrail supports securely to structure to resist code required loads.

C. Field weld steel handrail sections together at locations indicated on shop drawings.

1. Grind welds flush and smooth.

2. Welds shall be free of voids and pits after grinding.

3. Field joining and welding shall match shop welded quality and appearance and not be visible.

4. Touch-up welds on galvanized surfaces with galvanizing repair paint, and elsewhere with primer.

D. Conceal bolts and screws whenever possible. Where not concealed, use flush countersunk fasteners.

3.04 PROTECTION

A. Protect handrails and guardrails from damage, repair any scratches resulting from shipping, handling, construction work or traffic to match adjacent finish and so that repaired area is invisible.

3.05 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Rough Carpentry.

B. Glue-Laminated Stair Stringers.

C. Replacing deteriorated roof deck.

1.03 REFERENCES

A. References shall be the latest adopted edition.

1. APA – Engineered Wood Association
2. AWPA Standard U1 – Use Category System: User Specification for Treated Wood; American Wood-Preservers' Association.
3. PS 20 – American Softwood Lumber Standard; Voluntary Product Standard.
4. WCLB (GR) – Standard Grading and Dressing Rules No. 17; West Coast Lumber Inspection Bureau.
5. WWPA – Western Lumber Grading Rules; Western Wood Products Association.

1.04 QUALITY ASSURANCE

A. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.

1. Acceptable Lumber Inspection Agencies: WCLB and WWPA.

1.05 DELIVERY, STORAGE AND HANDLING

A. Cover wood products to protect against moisture and growth of mold/mildew. Support stacked products to prevent deformation and to allow air circulation.

PART 2 - PRODUCTS

2.01 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Species/Grade: As specified in the General Notes on the Structural Drawings. If species/grade is not called out in The General Notes of the Structural Drawings, use Hem Fir; No. 2 or Better.

B. Sizes: Nominal sizes as indicated on drawings or required to meet field conditions, S4S.

C. Moisture Content: Maximum 19 percent, stack or kiln-dried.

2.02 GLUE-LAMINATED STAIR STRINGERS

A. Manufacturers:

1. Company specializing in manufacture of glue laminated structural units and certified by the AITC.

B. Glue-Laminated Structural Units:

1. Lumber: Douglas Fir, No. 1 or Select Structural Grade, conforming to the appearance requirements noted under Fabrication in this section.

2. Laminating Adhesive: Waterproof adhesive conforming to AITC requirements.

C. Wood Sealer: Conform to ANSI / AITC A190.1 requirements.

D. Fabrication: Fabricate in accordance with ANSI / AITC A1190.1:

1. ANSI / AITC Industrial Grade.

2. Verify dimensions and site conditions prior to fabrication.

3. Do not splice or join members in locations other than those indicated without permission.

4. Stringers shall be preservative pressure treated.

5. After end trimming, seal with penetrating sealer in accordance with AITC requirements.

2.03 TONGUE AND GROOVE (T&G) ROOF DECK

A. Species/Grade: As specified in the General Notes on the Structural Drawings.

1. Match thickness of existing roof decking material.

2.04 ACCESSORIES

A. Fasteners, Anchors and Anchorbolts: As specified in the General Notes on the Structural Drawings for structural applications.

1. Fasteners on Building Exterior, in High Humidity or in Preservative Pressure Treated Wood: Stainless steel or hot-dipped galvanized.

a. Use only stainless steel fasteners in wood treated with ACZA preservative treatment.

2. Nails: Hot-dipped galvanized steel, manufactured by American or Canadian manufacturer.

B. Die-Stamped Framing Connectors: As specified on the Structural Drawings; hot dipped galvanized steel, ICC approved, Simpson StrongTie or similar.

1. Connectors: Hot dip galvanize after fabrication.

C. Construction Adhesive: APA AFG-01, Waterproof, solvent base, air cure type, cartridge dispensed.

D. Special Project Requirement: There shall be no exposed galvanized finishes on the exterior of the building. Where galvanized metal/fasteners are used, they shall be painted per Section 09 90 00.

2.05 FACTORY WOOD TREATMENT

A. Preservative Pressure Treatment of Lumber Above Grade: AWPA Treatment U1 using waterborne preservative designated in AWPA UC3B as suitable for above grade use to 0.25 percent retention.

1. Kiln dry after treatment to maximum moisture content of 19 percent.

2. Treat wood in contact with roofing, flashing, or waterproofing.

3. Treat wood in contact with masonry or concrete.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate carpentry work with existing roofing removal and re-roofing work, to coincide with dry weather.

C. Coordinate the skylight curb framing to accommodate the existing skylight openings and to minimize cutting framing members and / or framing openings in these assemblies.

3.02 GENERAL

A. Drilling, Notching and Cutting: Coordinate and control drilling, notching and cutting of framing members required to admit or install work of other trades, do not violate the structural integrity of any wood framed members, comply with restrictions and requirements of the Engineer, IBC and local Building Official.

B. Nailing: Nailing shall conform to the size and spacing shown on the Structural Drawings; where nailing is not indicated, provide nailing per IBC Table 2304.9.1. Fastening Schedule.

3.03 DEMOLITION, REPLACEMENT AND INFILL ROOFING DECKING

A. Removal and Replacement of Existing Roof Decking Material:

1. Cut out deteriorated section(s) of 2x roof decking material to the center of nearest structural support member.
2. Pull out existing nails/screws.
3. Install 2x4 wood blocking to support panel edges if required.
4. Install T&G Roof Decking.
    a. Orient to match existing roof decking.
    b. Fasten decking securely into existing roof framing as noted on Structural Drawings.
5. Protect existing decking to remain from damage.
6. Report any additional deteriorated roof decking to Engineer immediately and wait for direction on any required repair. Plan work in advance to allow Engineer time required to see deteriorated condition and give authorization for repairs (if any).

3.04 INSTALLATION – FRAMING

A. Cut and fit framing members accurately, set members level, plumb, and true to line. Discard crooked or twisted pieces or with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated on Drawings and Structural General Notes, but not less than required by applicable codes.

C. Construct curbs at skylight openings. Form corners by alternating lapping side members.

D. Provide additional framing members and / or modifications required to accommodate work of other trades.

3.05 INSTALLATION – GLUE-LAMINATED STAIR STRINGERS

A. Lift members using protective straps to prevent visible damage.

B. Set members in correct positions.

C. Provide temporary bracing and anchorage to hold members in place until permanently secured.

D. Fit members together accurately without trimming, cutting, or other unauthorized modification.

E. Swab and seal the interior wood surfaces of field drilled holes and cuts in members with clear wood preservative.

3.06 DRILLING, CUTTING AND NOTCHING

A. Do not drill, cut, notch or alter any structural framing, except as noted on the Drawings and in this specification, without the approval of the Engineer.

3.07 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.

B. Allow preservative to dry prior to erecting members.

3.08 WORKMANSHIP

A. Carpentry work shall be accomplished using the best workmanship, including the following:

1. Crooked, bowed, twisted or damaged lumber culled out and used for blocking / backing.
2. End cuts at proper angle and length for tight fit.
3. Nailed connections free of splitting or damage.
4. Framing aligned plumb and square.
5. Framing conforming to specified tolerances.

B. Any part of the carpentry work installed with improper or poor workmanship shall be removed and replaced at Contractor’s expense.

3.09 TOLERANCES

A. Framing Members: 1/4-inch from true position, maximum, provided other tolerances are met.

3.10 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 0 and 1 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Removal / disposal of existing roofing.

B. Asphalt Shingle Roofing.

1.03 REFERENCES

A. References shall be the latest adopted edition.

1. American Society for Testing and Materials (ASTM):

a. ASTM D1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection

b. ASTM D3018 – Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules

c. ASTM D3161 – Standard Test Method for Wind-Resistance of Asphalt Shingles

d. ASTM D3462 – Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules

e. ASTM D7158 – Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force / Uplift Resistance Method)

f. ASTM E108 – Standard Test Methods for Fire Tests of Roof Coverings

2. National Roofing Contractors Association (NRCA):

a. The NRCA Steep Roofing Manual

3. Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA)

a. SMACNA (ASMM) – Architectural Sheet Metal Manual

4. Underwriters Laboratory, Inc. (UL):

a. UL 2218 – Impact Resistance of Prepared Roof Covering Materials

1.04 SUBMITTALS

A. Refer to Division 1 for submittal procedures.

B. Product Data: Provide manufacturer’s product data for each material specified indicating material characteristics.

C. Samples: Submit two samples of each shingle color indicating color range and finish texture / pattern; for color selection.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Approved by the manufacturer to install the specified products and provide the specified warranties.

B. Source Limitations: Obtain shingles and ice and water membrane underlayment from single manufacturer.

C. Perform Work in accordance with the recommendations of NRCA Steep Roofing Manual and shingle manufacturer's instructions.

D. Fire-Resistance Characteristics: Where indicated, provide asphalt shingles and related roofing materials identical to those of assemblies tested for fire resistance per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency

1.06 ENVIRONMENTAL REQUIREMENTS

A. Do not install shingles when surface or ambient air temperatures are below 45 degrees F.

1.07 EXTRA MATERIALS

A. Provide 4 bundles of extra shingles of color selected.

1.08 PRE-INSTALLATION MEETING

A. Prior to start of installation, conduct a pre-installation meeting on site to review asphalt shingle roofing installation.

1. The following persons shall attend the meeting: Contractor, roofing installation foreman, shingle manufacturer field representative, Engineer and Owner Representative.

1.09 GUARANTEE / WARRANTY

A. Contractor Guarantee: Asphalt shingle work is subject to a one- year guarantee by the Contractor (separate from any product warranty by shingle manufacturer). Upon notification by the Port, the Contractor agrees to return to the site to investigate and correct any leaks, defects or failures connected with the work of this section at no cost to the Port within a one-year period.

B. Manufacturer’s Warranty: Asphalt shingle manufacturer’s standard 35 year warranty, including 100 miles per hour wind warranty.

PART 2 - PRODUCTS

2.01 ASPHALT COMPOSITION SHINGLES

A. Asphalt Composition Shingles: SBS modified 3-tab shingles, SBS rubber modified asphalt coating on a composite polyester / glass fiber mat, self-sealing, conform to the following:

1. Approximate Weight: 235 lbs. per square
2. Dimensions: 13-1/4-inch x 39-3/8-inch (± 1/8-inch)
3. Exposure: 5-5/8-inch
4. Granule Adhesion: 0.5 gram loss
5. Fire Rating: Class A
6. Manufacturer’s Warranty: 35 year shingle warranty including:
    a. 100 m.p.h. wind warranty
7. Standards: Meet / exceed the following:
    a. UL 2218 Class 4 Impact Resistance
    b. ASTM D7158, Class H
    c. ASTM D3462

d. ASTM D3018 Type 1

e. ASTM D3161 Class F

f. ASTM E108 Class A

g. ICC Approval - ESR 3150

8. Color: As selected by Engineer.

9. Manufacturer / Product: Malarkey *230 The Alaskan* or equal as approved by the Engineer.

a. Shingles shall not have the algae resistant coating applied to the shingles. Shingles with the coating shall be rejected.

B. Starter Shingles: Provide starter shingles matching composition and color of asphalt composition shingle.

2.02 SHEET MATERIALS

A. Ice and Water Membrane Underlayment: Fiberglass mat impregnated and heavily coated with an SBS modified asphalt, 70 mils thick, self-adhering back with release paper, sanded top surface, conforming to ASTM D1970.

1. Manufacturer / Product: Malarkey *Arctic Seal 401* or equal as approved by the Engineer.

2.03 ACCESSORIES

A. Shingle Nails: Hot-dipped galvanized, 3/8-inch diameter head minimum, 11 to 12 gauge, length as required to penetrate roof sheathing 3/4-inch minimum, barbed shank roofing nail manufactured in America or Canada, approved by shingle manufacturer.

B. Hand-Sealing Asphalt Mastic: Henry #209 Elastomastic in 11 ounce cartridges or equal as approved by the Engineer.

C. Lap Cement: Fibrated cutback asphalt type, recommended for use in application of underlayment, free of toxic solvents, approved by shingle manufacturer.

2.04 METAL FLASHINGS

A. Sheet Metal Flashings: Specified in Section 07 62 00.

2.05 TEMPORARY WATERPROOF TARPS / COVERS

A. Provide reinforced waterproof tarps with reinforced edges and grommets suitable for providing temporary waterproof cover over any area of bare wood roof deck that is exposed to wet weather.

1. Tarps shall be large enough to cover entire area of existing roofing that has been removed in one piece.

2. Provide tie down rope and sandbags as required to secure tarp in place.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. The removal of the existing roofing, along with roof carpentry and reroofing shall be scheduled to coincide with dry weather and shall progress in an orderly manner section by section so that no more existing roofing is removed than can be covered or protected the same day. Do not leave the roof deck and building exposed to the elements overnight, provide roofing or temporary roof covering over exposed deck areas at the end of each work day or cover immediately if wet weather threatens.

C. Coordinate existing roofing removal, carpentry work and installation of new roofing in the proper sequence with work of Sections 06 10 00 and 07 62 00.

D. Coordinate installation of asphalt shingles to follow installation of sheet metal eave and rake flashings.

3.02 REMOVAL OF EXISTING ROOFING

A. Remove existing asphalt built-up and asphalt shingle roofing, underlayment and flashings down to existing deck and dispose of offsite. Roofing removal shall be accomplished in sections small enough to allow roofing replacement to occur during periods of dry weather.

B. Remove existing roofing nails and clean the substrate of debris and foreign material which may be harmful to the roofing system.

C. Protection: Plan for and provide temporary protection of the existing building roof deck and interior and protect from becoming wet due to inclement weather.

3.03 EXAMINATION

A. Verify existing conditions prior to beginning work.

B. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.

C. Verify deck surfaces are dry, free of damage, ridges, warps or voids.

D. Confirm that no sheathing nails are projecting above surface of the sheathing.

E. Start of installation indicates acceptance of roof substrate and conditions.

3.04 PREPARATION

A. Broom clean deck surfaces before installing underlayment.

B. Clean sheet metal flashings free of dirt, grease and oil.

3.05 INSTALLATION - ICE AND WATER MEMBRANE UNDERLAYMENT

A. Install ice and water membrane underlayment over the entire roof deck under shingles.

1. Eaves: Install over top of sheet metal eave flashing.

2. Hand-roll tight to flashing for good adhesive bond.

3. Shingle lap seams.

B. Install underlayment in accordance with manufacturer’s installation instructions.

C. Install underlayment perpendicular to slope of roof, with ends and edges shingle lapped minimum 4 inches.

D. Installation at Edge Flashing:

1. Eaves: Install ice and water membrane and underlayment over top of eave flashing

2. Gable / Rake Ends: Install under sheet metal rake flashing.

E. Items projecting through or mounted on roof: Weather lap and seal underlayment to item watertight with asphalt mastic.

F. Protect from damage, do not cut when installing shingles.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

A. Installation of sheet metal flashings is specified in Section 07 62 00.

B. Coordinate installation of flashings in accordance with shingle manufacturer's instructions, NRCA Steep Roofing Manual requirements and SMACNA Architectural Sheet Metal Manual requirements (where conflicts exist, the most restrictive requirement shall apply).

C. No exposed nails / screws in flashing allowed on roof deck.

3.07 INSTALLATION - SHINGLES

A. Install shingles in accordance with manufacturer's installation instructions and this section (where conflicts exist, the most restrictive requirement shall apply).

1. Intermix bundles and shingles to prevent visible color patterns in installed roofing.

B. Place shingles in straight coursing pattern, parallel with eave edge of roof, with manufacturer's recommended weather exposure to produce double thickness over full roof area.

C. Nailing: Attach shingles with specified nails in accordance with shingle manufacturer’s nailing instructions.

1. Install nails in each shingle in quantity and manner as required by shingle manufacturer for achieving the specified wind warranty.

2. Nail guns are allowed subject to the following:

a. Each nail gun shall have independently regulated air source.

b. The specified nails shall be used.

c. Nails shall be installed in a consistent manner so that head is properly seated on shingle without over or under-driving as recommended by shingle manufacturer.

3. Proper Nailing Is Mandatory - If nailing is found to be inconsistent and not in conformance, hand nailing will be required.

4. Any shingles improperly nailed and not conforming to shingle manufacturer’s requirements shall be removed and replaced at Contractor’s expense.

D. First Course: Overhang first course of shingles 3/4 inch beyond face of gutter / eave flashing.

E. Completed shingle roofing installation shall provide a permanently watertight roofing assembly.

3.08 HAND SEALING SHINGLES

A. Hand seal shingles by using a cartridge in caulking gun to apply a continuous 1/4-inch bead of asphalt mastic to the weather side of nails in the following locations:

1. Rake edge shingles - extend a bead of mastic down the rake edge; mastic shall not be visible.

3.09 PROTECTION

A. Do not permit traffic over finished roof surface.

3.10 WORKMANSHIP

A. Roofing installation shall be installed using the best workmanship, including the following:

1. No wrinkles in ice and water membrane underlayment.
2. Underlayment properly shingle lapped and end sealed.
3. Align shingle rows straight with consistent exposure width.
4. Proper nail installation; no over or under-driven nails; no crooked or bent nails.
5. Nails installed in proper location, no exposed nails.
6. No damaged shingles.
7. No visible shingle patterning.

B. Roofing installed with improper or poor workmanship shall be removed and replaced at Contractor's expense.

3.11 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

B. Schedule of Required Inspections; confirm installation and workmanship are as shown / specified:

1. Inspect roof deck and check for unacceptable conditions.
2. Inspect sheet metal flashing installation.
3. Inspect ice and water membrane installation.
4. Inspect underlayment installation.
5. Inspect shingle installation hourly / daily as work progresses.
6. Inspect completed roofing.

C. Manufacturer's Field Services: Provide manufacturer's field service consisting of periodic site visits for review of installation procedures with Contractor and inspection of product installation in accordance with manufacturer's instructions.

1. Site Visits: Manufacturer's Field Representative shall visit site a minimum of 4 times:
    a. For pre-installation meeting with installer.
    b. Immediately prior to shingle installation to inspect the roof deck for initial installation.
    c. During shingle installation.
    d. Upon completion of shingle installation.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Metal Wall Panel System and Related Flashings / Trim.

1.03 PERFORMANCE REQUIREMENTS

A. Environmental Requirements:

1. Provide for expansion and contraction of system components due to changes in ambient temperature and solar heat gain. Accommodate movement due to temperature change without buckling, undue stress on structural elements, reduction of performance, or other damaging effects.

a. Anticipated ambient temperature range: Minus 5 degrees to plus 140 degrees F.

B. Work of Other Trades: Review and coordinate work of other trades that interface with or pass through the metal panel systems.

1. Make whatever provisions are necessary to the design, layout and fabrication of the metal panel systems to accommodate work by others.

1.04 REFERENCES

A. References shall be the edition current as of the date of the Contract Documents.

B. American Society for Testing and Materials (ASTM):

1. ASTM A792 – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process, General Requirements.

2. ASTM E283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

3. ASTM E331 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

4. ASTM E1646 – Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference.

5. ASTM E1680 – Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.

C. International Building Code (IBC).

1.05 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Product Data: Manufacturer's written technical information, including performance data, details and installation recommendations, which demonstrate that metal panel assembly components comply with contract documents.

C. Samples for Verification of Coated Finishes: Submit two 4-inch x 6-inch samples cut from actual coated metal material for each finish type, texture and color.

1.06 QUALITY ASSURANCE

A. Metal panels shall be factory roll formed, site formed panels are not acceptable.

B. Manufacturer Qualifications: A company with a minimum of 10 years successful experience in the design, fabrication and installation of metal panel systems comparable in size and nature to those required for this project.

C. Installer Qualifications: installer shall have a minimum of 5 years successful experience under the current business name in the installation of metal panel systems comparable in size and nature to those required for this project (upon request provide listing of projects completed within the last 3 years along with names and phone numbers of owners and general contractors).

1. Installer shall be approved in writing by the Metal Panel Manufacturer.

D. Field Measurements: Measure in place construction on which metal panel system will be installed if possible, before fabrication of panels. If not feasible, fabricate material to allow in field trimming of panels to assure proper fit.

1. Coordinate field measurements and shop drawings with shop fabrication to minimize field adjustments, splicing and mechanical joints.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle products as recommended by manufacturer to prevent damage or discoloration.

1. Protect against damage and discoloration.

2. Handle panels with non-marring slings.

3. Do not bend panels.

4. Store panels above ground, with one end elevated for drainage.

5. Protect panels against standing water and condensation between adjacent surfaces.

6. If panels become wet, immediately separate sheets, wipe dry with clean cloth and keep sheets separate for air-drying.

7. Do not allow panels with strippable film to be exposed to direct sunlight. Remove film prior to installation.

1.08 WARRANTY

A. 30 Year Pre-Finished Sheet Steel Warranty: Warrant coated finish against cracking, peeling, blistering, chalk in excess of 8 units, and fade in excess of 5 NBS points, for a period of 30 years, without reducing or otherwise limiting any other rights to correction which the owner may have under the contract documents. Manufacturer shall also warrant that metal will not fail structurally, perforate, rupture or leak due to corrosion for a period of 25 years.

PART 2 - PRODUCTS

2.01 METAL WALL PANEL SYSTEM

A. Manufacturer / Product: Specification and design are based on AEP-Span metal wall panel systems. Manufacturers that may be acceptable, subject to their ability to provide products conforming with the requirements of this Specification, include:

1. AEP-Span (specified)

2. Fabral
3. MBCI
4. McElroy Metal

B. Factory Pre-Finished Sheet Metal: Steel sheet with minimum yield of 40,000 psi conforming to ASTM A792 coated with AZ50 zinc aluminum alloy (Zincalume or Galvalume).

1. Factory Finish:
   a. Finish Coating (Weather Side): Premium fluoropolymer coating with minimum of 70% Kynar 500 or Hylar 5000 base resin, factory-applied, oven baked and applied under controlled conditions; 30 year warranty.
   b. Underside / Backside Finish: Manufacturer's standard corrosion – inhibiting wash coat.
2. Color(s): As selected by Engineer.
3. Protective film: Provide strippable plastic film, applied to finish of coil stock before forming, or plastic interleaf, applied to panel after forming.

C. Metal Wall System: AEP Span, Reversed Box Rib factory-formed metal panels with through fastened attachment to building structure.

1. Application: Through fastened wall panel.
2. Panel Material: Fabricate panels from factory finished steel sheet.
3. Panel Gauge: 24 gauge minimum.
4. Panel Thickness: 1-1/2 inches
5. Panel Width (net coverage): 36 inches
6. Panel Length: Refer to Drawings and field measurements.
7. Panel Direction: Install panels vertically.

D. Accessories:

1. Fasteners: Provide manufacturer's recommended galvanized steel corrosion-resistant screw fasteners and anchors of size and type required for intended application and substrate conforming to structural design criteria.
   a. Use of cadmium plated fasteners is not allowed.
2. Profile Closures Strip: Closed-cell neoprene rubber, die-cut to fit panel profile with 5 to 10 percent compression.
3. Sheet Metal Flashings and Trim:
   a. Fabricate from 24 gauge factory finished steel sheet, with same finish and color as adjacent wall panels.
   b. Wall Panels: Provide perimeter trim and flashings required for a complete, water-tight wall panel system in accordance with manufacturer’s standard details and as shown on the Drawings, including inside and outside corners, head flashing, sill flashing, end trim, flashing around penetrations, etc.
   c. Comply with sheet metal fabrication standards specified in Section 07 62 00.

4. Exposed Joint Sealant: Provide as specified in Section 07 90 00, JOINT SEALERS.
5. Sealants and Gaskets: Provide metal panel system manufacturer's recommended sealant.
6. Penetrations: Provide metal panel system manufacturer’s recommended flashing system.

2.02 FABRICATION

A. Coordinate and confirm field dimensions and conditions prior to fabrication.

B. Factory form metal panels in continuous one-piece lengths; site formed panels are not allowed.

1. Fabricate panels to profiles and configuration required by metal panel manufacturer and as shown on the Drawings for water-tight assembly.

C. Shop fabricate flashing and trim in pre-finished sheet metal matching wall panels in longest lengths practical to profiles and configuration required by manufacturer and as shown on the Drawings.

1. Conform to fabrication requirements specified in Section 07 62 00, SHEET METAL FLASHING AND TRIM.
2. Gauge: 24 gauge minimum; increase thickness where recommended by manufacturer or where field conditions require additional stiffness to avoid waviness or visible deflection.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate installation of sheet metal flashings with Section 07 62 00 SHEET METAL FLASHING AND TRIM for proper sequence and for water-tight assembly.

C. Coordinate and accommodate openings and penetrations required be other trades.

3.02 EXAMINATION

A. Verify that substrate and structural to receive work of this section is complete, properly sized and is laid out correctly in plan and elevations in conformance with the shop drawing.

B. Confirm that structural elements, to which the metal panels will be attached, are adequate to provide secure attachment of the metal panels.

C. Confirm that framing / backing is installed for support and fastening metal panels.

D. Confirm that substrate (framing / sheathing / decking) is plumb and straight, and that surface plane is within 1/4-inch in 10 feet tolerance.

E. Report any variations and potential problems; do not start work until unsatisfactory conditions have been corrected.

F. Start of installation indicates acceptance of the substrate, structural system and site conditions.

3.03 INSTALLATION – METAL WALL PANEL SYSTEM

A. Install manufactured metal wall panels in accordance with panel manufacturer’s installation instructions and approved shop drawing to achieve a weather-tight installation.

B. Fasten panels as necessary to comply with performance criteria, allowing for expansion and contraction due to temperature variations and building movement.

C. Install panels in one continuous length for height of walls to receive metal wall panels.

D. Install gaskets, sealants, closures and flashings / trim as the work progresses to ensure air-tight and water-tight performance of the completed installation.

3.04 CLEANING AND PROTECTION

A. Remove protective coverings from pre-finished metal surfaces after each panel is installed.

B. Remove loose fasteners, metal scraps and debris and sweep clean.

C. Replace any panels or flashing / trim that has damage to the paint coating that voids the manufacturer's warranty or where damage is visible.

D. Clean finished surfaces using techniques and materials recommended by panel manufacturer. Protect cleaned surfaces until project completion.

3.05 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Removal of Existing Roofing System and Flashings

B. Modified Bitumen Roofing System

1.03 PERFORMANCE REQUIREMENTS

A. Roofing manufacturer is responsible for design of a total roofing system that conforms to these performance requirements.

B. Watertight Design / Details: Provide roofing system that provides a watertight roofing installation for the duration of the warranty free of leaks or failures.

C. Roof Wind Load Design: Design the installed roofing system and its attachment to the building structure to conform to the wind load requirements of the International Building Code.

1. Design Wind Speed: 85 mph

D. Perimeter Flashing: Install roof perimeter flashing system in conformance with roofing manufacturer requirements and Factory Mutual Loss Prevention Bulletin 1-49.

1.04 REFERENCE STANDARDS

A. References shall be the latest adopted edition.

1. American Society for Testing and Materials (ASTM):

a. ASTM D41 – Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing

b. ASTM D4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free

c. ASTM E108 – Standard Test Methods for Fire Tests of Roof Coverings

2. International Building Code (IBC)

3. National Roofing Contractors Association (NRCA):

a. NRCA ML104 – The NRCA Roofing and Waterproofing Manual

4. Occupational Safety and Health Administration (OSHA)

5. Underwriters Laboratory, Inc. (UL):

a. UL 790 – Standard Test Methods for Fire Tests of Roof Coverings

1.05 ROOFING MEMBRANE SYSTEM DESIGN RESPONSIBILITY

A. Roofing Membrane System Design Responsibility: The Contract Documents show and specify a total roofing membrane system (each material between the roof deck and the top of the roofing membrane). The Contractor is responsible for providing a roofing installation that conforms to the roofing manufacturer’s recommended design details and requirements that will provide watertight service for at least the duration of the roof warranty and that includes the following:

1. Design roofing membrane system and attachments to conform to the wind speed requirements of the IBC.

2. Provide and / or approve materials used in the application of the roofing membrane system.
3. Approve installation methods used in the application of the roofing membrane system.
4. Provide clear instruction to the installer on:
    a. Environmental requirements for storage and installation
    b. Approved installation requirements of the roofing materials
    c. Installation sequence
    d. Proper assembly of the materials into a roofing membrane system designed to provide a watertight roofing assembly

1.06 SUBMITTALS

A. Refer to Division 1 for submittal procedures.

B. Submittals Prior To Beginning Work:

1. Description of Proposed Roofing System: Provide a type-written summary describing the roofing system and list each component / product to be supplied. Include method of attachment and layout of mechanical insulation fasteners.
2. Product Data: Submit current product literature describing the roofing system proposed; include technical information on each roofing component specified including pertinent testing data.
3. Shop Drawings: Submit roofing manufacturer's approved details for each different condition on the roof; or provide written approval of the details shown on the Drawings by the roofing manufacturer's technical department. -.
4. Samples: Submit samples of roofing ply sheets, cap sheet, insulation, mechanical fasteners.
5. Certifications: Provide certification letter(s) from the roofing manufacturer for the following:
    a. Approval of the installer for the specific type of roofing system specified and for the type and duration of the warranty specified.
    b. Certification that each different roofing system proposed for this project has been tested and approved for conformance to Class B fire classification.
    c. Approval of each component of the roofing assembly (from deck up to cap sheet) that is not manufactured directly by the roofing manufacturer (including but not limited to cover board, insulation board, mechanical fasteners, etc.).
    d. Approval of the roofing details shown on the Drawings, or if any detail(s) is not approved, provide proposed alternate detail.
    e. Provide a draft copy of the roofing warranty.
6. Calculations: If requested by the Building Official, provide calculations supporting the design of the roofing membrane system in conformance with wind speed requirements in the IBC.

C. Submittals Prior To Project Close-Out:

1. Certifications: Submit letter from the manufacturer certifying that each component of the roofing assembly supplied to the project conforms to the manufacturer's printed technical and testing data included in the project submittal.
2. Maintenance Instructions: Manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, roof penetration addition policies, temporary repairs and leak call procedures.
3. Warranty: Manufacturer's signed Warranty conforming to the requirements specified in this section.

1.07 QUALITY ASSURANCE

A. Acceptable Products: The Contractor will provide written evidence that the primary roofing products, including each type of sheet, are manufactured in the United States, and are supplied by a single manufacturer which has been successfully producing the specified types of primary roofing products for not less than 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years.

B. Regulatory Agency Requirements: The installed built-up modified bitumen roofing system, including insulation, shall conform to the following:

1. Fire Classification: Class B, tested in accordance with ASTM E108 or UL 790.
2. Design Wind Speed: 85 MPH wind speed in conformance with the requirements of IBC Chapter 16 - Section 1609.

C. Acceptable Installer: Upon request from the Port, the roofing installer shall provide written proof of a minimum of 5 years' experience in successfully installing the same or similar roofing materials.

D. Workmanship: Work shall be of highest quality and in performed in strict accordance with the manufacturer's published specifications.

E. Supervision: There shall be a qualified, experienced supervisor on the job site while work is in progress.

F. Scope Of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, materials, tools and equipment necessary to complete, in an acceptable manner, the roofing installation in accordance with this specification and with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractors Association.

G. Torch-Applied Roofing Application: Comply with NRCA Certified Roofing Torch Applicator (CERTA) guidelines; the person(s) applying torch down roofing shall be a Certified Roofing Torch Applicator (CERTA) trained and certified by the NRCA.

H. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and / or state of jurisdiction.

I. Manufacturer Requirements: Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon substantial completion of the roofing work.

1.08 PRE-INSTALLATION MEETING

A. Arrange a roofing pre-installation meeting with the General Contractor, roofing installer, sheet metal installer, roofing membrane system manufacturer's field representative and Engineer, schedule for at least one week prior to start of any installation.

1.09 PRODUCT DELIVERY STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. Material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.

C. Handling: Handle materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.

D. Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

1.10 PROJECT / SITE CONDITIONS

A. Requirements Prior To Job Start

1. Notification: Give a minimum of 5 days' notice to the Engineer and manufacturer prior to commencing any work and notify on a daily basis of any change in work schedule.

2. Safety: Familiarize every member of the application crew with fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Environmental Requirements

1. Precipitation: Schedule roofing work to coincide with warm, dry weather, do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing and building interiors are protected from possible moisture damage or contamination.

C. Protection Requirements

1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.

2. Existing Roofing: Protect existing roofing on adjacent areas of the building that are scheduled to remain from damage due to the work of this project.

a. Do not store materials of equipment on existing roof areas.

D. Torch Safety: Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on areas of roof construction. Continue the fire watch for a minimum of one hour after roofing material application has been suspended for the day.

E. Fire Safety: Protect against fire and flame spread. Maintain an adequate number of fire extinguishers of the proper type and size.

F. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.

G. Debris Removal: Place debris into proper containers daily, secured against wind and take to a legal dumping area authorized to receive such materials.

H. Site Condition: Complete, to the Engineer's satisfaction, job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.11 WORK SEQUENCE

A. Schedule and execute installation of roofing system for warm, dry weather and after work of other trades and related construction traffic on the roof is completed.

B. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed sections of the membrane system.

1.12 SAFETY

A. The Contractor is solely responsible for means and methods as they relate to safety and shall understand, implement and comply with applicable local, state and federal requirements that are safety related.

1.13 WARRANTY

A. Roofing System 20 Year Warranty: Upon substantial completion of the project, and after post installation procedures have been completed, furnish the Port with the roofing manufacturer's twenty year no dollar limit labor and materials roofing system warranty. The warranty shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the Port.

B. Contractor Guarantee: Roofing work is subject to a one year guarantee by the Contractor (separate from any warranty by manufacturer). Upon notification by the Port, the Contractor agrees to return to the site to investigate and correct any leaks, defects or failures connected with the work of this section at no cost to the Port within a one year period.

PART 2 - PRODUCTS

2.01 ROOFING SYSTEM

A. Roofing System Manufacturers: Products specified by Soprema are the basis of design and are the standard of quality and function required for this project. Products by the following manufacturers that meet or exceed this standard of quality and function are acceptable:

1. Siplast
2. Soprema Roofing and Waterproofing, Inc. (specified)
3. Or equal as approved by the Engineer

B. General: Products (including insulation, fasteners, etc.) must be manufactured and supplied (or approved in writing) by the Roofing System Manufacturer and covered by the warranty.

C. Roofing Membrane System Assemblies

1. Existing Wood Deck:

a. Cover Board mechanically fastened to existing wood deck.

b. Base Ply torch-applied to cover board.

c. Finish Ply torch-applied to base ply.

D. Roofing Membrane System Materials:

1. Base Ply: Soprema *Sopralene Flam 250*, or equal as approved by the Engineer.

2. Finish Ply: Soprema *Sopralene Flam 250 FR GR*, or equal as approved by the Engineer.

3. Flashing Materials:

a. Flashing Base Ply: Soprema *Sopralene Flam Stik*, or equal as approved by the Engineer.

b. Flashing Finish Ply: Soprema *Sopralene Flam 250 GR*, or equal as approved by the Engineer.

E. Cover Board: 2 layers of Soprema 1/8-inch thick *Sopraboard* or equal as approved by the Engineer.

1. Fasteners: Screw fasteners and plates as recommended by roofing manufacturer to conform to code wind load requirements.

F. Fiber Cant Materials - Non-Nailable: Provide 4-inch perlite cant strips approved by roofing system manufacturer wherever a non-nailable cant is required.

G. Roofing Accessories Materials

1. General: Accessory materials shall be approved by roofing system manufacturer for use with the roofing system specified.

2. Bituminous Cutback Materials:

a. Primer: Soprema *Elastocolle 500* or *Elastocolle 600C*, or equal as approved by the Engineer, as recommended by manufacturer for substrate and conditions; a high flash, quick drying, asphalt solvent blend which meets or exceeds ASTM D41 requirements.

b. Plastic Cement / Mastics: Soprema SBS Modified Mastic, or equal as approved by the Engineer, asphalt cutback mastic, reinforced with non-asbestos fibers, conforming to ASTM D4586 Type II requirements.

3. Caulking / Sealants: Soprema *Sopramastic 200*, or equal as approved by the Engineer, moisture-curing, non-slump elastomeric sealant designed for roofing applications.

4. Ceramic Granules: No. 11 Grade Specification Ceramic granules of color scheme matching the granule surfacing of the finish ply.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate roofing work with carpentry work and to coincide with dry weather.

C. Coordinate roofing in the proper sequence with work of Sections 06 10 00 CARPENTRY, 07 31 13 ASHPHALT SHINGLES and 07 62 00 SHEET METAL FLASING AND TRIM.

D. Coordinate the fabrication and installation of the sheet metal flashings at areas where the roofing membrane system and flashings meet with Section 07 62 00 SHEET METAL

FLASHING AND TRIM to provide a leak-free juncture as recommended by roofing manufacturer.

3.02 REMOVAL OF EXISTING ROOFING

A. Plan, schedule and coordinate roofing removal work to prevent moving existing materials over new work.

B. Remove existing asphalt built-up and asphalt shingle roofing, sheet metal flashings, fasteners and dispose of offsite.

1. Roofing removal shall be accomplished in sections small enough to allow roofing replacement to occur during periods of dry weather.

2. Do not leave the existing roof deck / structure and interior open to wet weather.

3. Remove existing roofing, trim and accessories, fasteners, cants, crickets and similar roofing related items

4. Remove existing sheet metal flashings, gutters and fasteners.

5. Protect existing roof deck, structure, equipment and existing adjacent construction not scheduled for demolition from damage during removal work.

6. Dispose of removed materials directly into a dumpster or truck, do not dump removed materials onto pavements or into landscaping areas.

7. Clean up any materials that inadvertently fall over the edge of the roof immediately.

C. Protection: Plan for and provide temporary protection of the existing building roof deck and interior and protect from becoming wet due to inclement weather.

3.03 EXAMINATION

A. Inspect existing roof deck for conformance with roofing system manufacturer’s requirements.

B. Report any wet or water damaged sections of existing gypsum cover board or wood deck to Engineer.

C. Start of roofing installation indicates installer’s acceptance of the existing roof deck as conforming to roofing system manufacturer’s requirements.

3.04 PREPARATION

A. Sweep or vacuum existing roof deck, removing dirt, loose aggregate and foreign substances prior to commencement of roofing installation.

B. Inspect the flashings installation by Section 07 62 00 SHEET METAL FLASHING AND TRIM and confirm that they conform to the roofing membrane system manufacturer’s requirements.

C. Start of roofing work indicates that the roof deck, vertical wall surfaces and flashings have been inspected and found to conform with roofing membrane system manufacturer’s requirements.

3.05 ROOFING SYSTEM INSTALLATION

A. Install roofing system in accordance with roofing system manufacturer’s installation instructions. Application of roofing system components shall immediately follow application of cover board as a continuous operation.

1. Cover Board: Apply in 2 layers with joints staggered; fasten with screws and plates.

2. Aesthetic Considerations: An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize

recommended application techniques and exercise care in ensuring that the appearance of the finished application is acceptable to the Engineer.

3. Priming: Prime metal surfaces that are part of the roofing membrane (pipe flashings, edge metal, thru-wall scuppers, etc.) and concrete and masonry surfaces with a uniform coating of asphalt primer.

4. Back-nailing: Back-nail sheets as recommended by roofing membrane manufacturer to prevent slippage of the plys.

5. Water Cut-Off: At end of day's work, or when precipitation is imminent, construct a water cut-off at open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.

6. Sealant: Caulk exposed finish ply edges at the transition to metal flashings incorporated into the roof system with a smooth continuous bead of the specified sealant.

3.06 WORKMANSHIP

A. Roofing shall be installed using the best workmanship, including the following:

1. Storage and installation of roofing materials to prevent exposure to moisture from any source.

2. Straight and uniform ply sheet laps and installation.

3. Consistent torch application for uniform temperature and proper bonding between plys.

4. Properly bonded roofing plys free of fishmouths and unbonded areas.

5. No excess asphalt visible on finish ply installation.

B. Any part of the roofing system installed with improper or poor workmanship shall be removed and replaced at Contractor's expense.

3.07 FIELD QUALITY CONTROL AND INSPECTIONS

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

B. Manufacturer's Field Services: Provide manufacturer's field service consisting of periodic site visits for review of installation procedures with Contractor and inspection of product installation in accordance with manufacturer's instructions.

1. Site Visits: Manufacturer's Field Representative shall visit site a minimum of 4 times:

a. For pre-installation meeting.

b. Periodically, at several different random times during installation as determined by Manufacturer's Field Representative and work in progress.

c. Upon substantial completion of roofing installation

C. Site Condition: Leave areas around job site free of debris, roofing materials, equipment and related items after substantial completion of job.

D. Notification of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.

E. Issuance of The Guarantee: Complete post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Sheet Metal Flashing

B. Manufactured Edge Flashing System

C. Continuous Gutters

1.03 REFERENCES

A. References shall be the latest adopted edition.

1. American National Standards Institute (ANSI):

a. ANSI / SPRI ES-1 – Wind Design Standard for Edge Systems Used with Low Slope Roof Systems

2. American Society for Testing and Materials (ASTM):

a. ASTM A792 – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

b. ASTM B749 – Standard Specification for Lead and Lead Alloy Strip, Sheet and Plate Products

c. ASTM C920 – Standard Specification for Elastomeric Joint Sealants

d. ASTM D2244 – Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.

e. ASTM D4214 – Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.

3. Master Painters and Decorators Association (MPI):

a. MPI – Architectural Painting Specification Manual

4. Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA)

a. SMACNA (ASMM) – Architectural Sheet Metal Manual

1.04 SUBMITTALS

A. Refer to Division 1 for submittal procedures.

B. Product Data: Submit manufacturer’s product data for the following:

1. Pre-Finished Sheet Metal

2. Fasteners

3. Sealant

C. Submit shop drawings for review prior to fabrication, include the following:

1. Roof details showing each flashing condition keyed to the roof plan.

2. Profile and dimensions of each sheet metal item, gauge, type / finish of sheet metal, fastener type, location and spacing.
3. Corner and end details for each different flashing type.
4. Fastener material, type and size for each condition.
5. Sealant details showing joint configuration, sealant types and location for each condition.

D. Color Samples for Prefinished Sheet Metal: Submit manufacturer's standard color chart for color selection.

E. Fabricator / Installer Qualifications: Submit letter on company letterhead stating the qualification of the sheet metal installers that will perform the sheet metal fabrication and installation for this project; include a listing of each installers training in sheet metal work; years of experience installing sheet metal; sheet metal projects of similar size and complexity to this project.

1.05 QUALITY ASSURANCE

A. Fabricator / Installer Qualifications:

1. Minimum of 5 years' experience in fabrication and installation of architectural sheet metal similar in material, design and scope to this project with a record of successful in-service performance;
2. Only skilled, journeyman sheet metal workers that have completed 5 years of training through a state approved apprenticeship program that is specific to the Sheet Metal Industry are approved to install the work of this section.

B. Workmanship shall be of the best quality; installed work shall be straight and true with neat corners and terminations, free of any visual defects; installation shall be fabricated and installed to inherently shed water without reliance on sealant and be permanently watertight.

1.06 WARRANTY / GUARANTEE

A. 30 Year Pre-Finished Sheet Steel Warranty: Warrant coated finish for a period of 30 years against cracking, peeling, blistering, delamination and chalking in excess of 8 units when tested per ASTM D4214, and free of fade or color change in excess of 5 DE Units when tested per ASTM D2244, without reducing or otherwise limiting any other rights to correction which the Port may have under the contract documents. Manufacturer shall also warrant that metal will not fail structurally, perforate, rupture or leak due to corrosion for a period of 25 years.

B. 2 Year Installer's Guarantee: The Contractor shall guarantee the sheet metal installation for a period of one year against defects in installed materials and workmanship including a one year watertight guarantee. Correct any flashing or sheet metal item that is defective, improperly installed or leaking at no cost to the Port.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pre-Finished Sheet Metal: Steel sheet conforming to ASTM A792 with minimum yield of 50,000 psi and AZ50 (Zincalume or Galvalume) protective coating.

1. Finish Coating shall be a premium fluoropolymer coating with minimum of 70% Kynar 500 or Hylar 5000 base resin, factory-applied, oven baked and applied under controlled condition; 1 mil dry film thickness minimum (exclusive of primer); 30 year warranty.
2. Colors: As selected by Engineer.

3. Protective film: Provide strippable plastic film, applied to finish of coil stock before forming, or plastic interleaf, applied to panel after forming.
4. Manufacturers:
    a. AEP-Span
    b. Bryer Company
    c. Fabral
    d. McElroy Metal
    e. Metal Sales

B. Lead Sheet: ASTM B749; 4 lb./sq./ ft. hard tempered lead.

C. Stainless Steel Sheet: Conform to ASTM A666, Type 304, mill finish

D. PVC Pipe and Fittings: Schedule 40 PVC pipe and drainage fittings.
1. Provide PVC primer and cement for cementing fittings watertight.

E. Manufactured Edge Flashing System: Manufactured raised edge sheet metal flashing system conforming to ANSI / SPRI ES-1 standards for roof perimeter installations; galvanized sheet metal construction with prefinished sheet metal snap on fascia matching color of other prefinished sheet metal; face height as shown on Drawings.
1. Manufacturer / Product:
    a. Hickman *Safeguard NP*
    b. Siplast *Paraguard Raised Edge*
    c. Or equal as approved by the Engineer

2.02 ACCESSORIES

A. Fasteners: Fasteners shall be manufactured in the United States or Canada.
1. Fasteners for Pre-Finished Sheet Metal Fabrications:
    a. Exposed Condition - Wood Substrate: Hot dipped galvanized steel screws with self-sealing neoprene head; heads painted to match color of prefinished sheet steel.
    b. Exposed Condition - Concrete Substrate: Hot dipped galvanized steel expansion anchors; heads painted to match color of prefinished sheet steel.
    c. Concealed Condition: Hot dipped galvanized nails or screws or expansion anchors as appropriate for the substrate.
    d. Powder / power driven fasteners are not permitted.
2. Fasteners for Continuous Cleats (Concealed): Hot dipped galvanized screws, nails or expansion anchors as appropriate for the substrate.
    a. Powder / power driven fasteners are not permitted.

B. Sealant:
1. Exposed Condition: Polyurethane; ASTM C920, Type S, Grade NS, Class 25, Uses NT, M, G, A and O; color to match adjacent surface(s).
2. Concealed in Laps Condition: Butyl, single component, conform to Federal Standard TT-S-001657, Type I.

2.03 FABRICATION

A. General:

1. Field measure and verify site conditions prior to fabrication, accommodate field conditions.
2. Fabricate in accordance with SMACNA (Architectural Sheet Metal Manual, Sixth Edition), NRCA and as required by roofing manufacturer to profiles shown on Drawings (where conflicts exist, the most restrictive requirement shall apply).
3. Form sections true to shape, accurate in size, square and free from distortion or defects.
4. Furnish in minimum 10 foot lengths.
5. Hem exposed edges 1/2-inch on underside.
6. Lap joints shall be fabricated to allow 6-inches minimum overlap.
7. Fabricate flashings that terminate against a vertical abutment with end dams to prevent water running off ends and under / behind flashing.
8. Shop fabricate items including corners, end terminations and special conditions for neat appearance; field bending and fabrication is not acceptable.
9. Protect pre-finished metal from scratches or damage during fabrication.
10. End conditions, corners, transitions, terminations and changes in the plane or direction of flashings, copings and other sheet metal fabrications shall be custom fit and fabricated to accommodate field conditions and to provide a weather lapped, watertight assembly and transition. Workmanship and custom fabrications shall conform to similar conditions found in SMACNA Manual and to good sheet metal fabrication practice and shall not rely solely on sealant for their watertight integrity.

B. Copings / Cap Flashing: Fabricate to match configuration shown on the Drawings and SMACNA Figure 3-4A from prefinished sheet metal.

1. Provide continuous 22 gauge cleat to lock into hem on exposed outside face.
2. Fasten concealed inside face with screw fasteners.
3. Gauge:
    a. Coping widths up to 18-inches – 22 gauge.
    b. Coping widths over 18-inches – 20 gauge.
4. Seams: 1 inch high standing seam.
5. Outside Corners: Bend outside vertical face to form corner, overlap top and seal water-tight.
6. Inside Corners: Provide 12-inch wide backup metal to support and align ends / corners of flashing; miter cut flashing neatly with hairline crack.

C. Eave Flashing: Fabricate to match configuration shown on the Drawings from pre-finished sheet metal, 24 gauge or as shown on Drawings.

1. Lay out and fabricate for 6 inch lap joints.
2. Cut back hem and fabricate laps with male and female ends to allow for thickness of metal and sealant for proper fit and flush appearance.
3. Shop fabricate outside corners for neat appearance.

4. Provide continuous hook edge to support continuous gutter as shown on Drawings.

D. Rake Edge Flashing: Fabricate to match configuration shown on the Drawings from 24 gauge pre-finished sheet metal.

1. Provide continuous 22 gauge cleat to lock into hem on bottom edge.
2. Lay out and fabricate for 6 inch lap joints.
3. Cut back hem and fabricate laps with male and female ends to allow for thickness of metal and sealant for proper fit and flush appearance.

E. Counter Flashing: Fabricate to match configuration shown on the Drawings from prefinished sheet metal, 24 gauge or as shown on Drawings.

1. Lay out and fabricate for 6 inch lap joints.
2. Cut back hem and fabricate laps with male and female ends to allow for thickness of metal and sealant for proper fit and flush appearance.
3. Fabricate for tight spring action contact to roofing / wall behind.
4. Counter Flashing Corners: Fabricate watertight with neat appearance, bend at corner and extend past corner at least 12 inches.

F. Continuous Gutters (Seamless): Fabricate to match gutter size and configuration / profile shown on Drawings (similar to SMACNA Style I, Figure 1-2) from pre-finished sheet metal; minimum 24 gauge.

1. Fabricate on site in continuous full length (seamless) gutter sections as shown / required for each roof eave condition using a continuous roll-formed gutter machine.
    a. Sectional gutters with sealant joints are not acceptable.
2. Gutter Profile / Dimensions: As shown on Drawings.
    a. Continuous Gutters with similar profile, dimensions and capacity will be considered, submit profile and dimensions to Engineer for review.
3. Gutter Thermal Movement: Allow space for thermal expansion / contraction of gutter when fabricating gutters between fixed points or with gutter return around corner to prevent buckling or pulling apart of corner joints; refer to SMACNA Manual for recommended allowance for expansion / contraction based on metal type, gutter length and 140 degree F temperature differential.
    a. Anchor Points: Screw attach gutter to eave hangar flashing at a single location mid-point of gutter length or as noted on Drawings to allow gutter expansion / contraction in both directions from fixed anchor point.
4. Corners: Miter cut and overlap corners.
    a. Seal watertight with Gutter Sealant.
    b. Install solid head rivets for secure connection.
5. End Closures: Provide watertight end closures, fabricate to fit gutter profile:
    a. Seal watertight with Gutter Sealant.
6. Outlet Tubes: Provide 4 inch long round drain outlet tubes at each downspout location fabricated with turned flange top per SMACNA Figure 1-24C; seal and rivet for watertight

joint; size diameter to fit easily into downspout pipe. Install in gutter similar to SMACNA Figure 1-33D;

a. Seal lap joint watertight with Gutter Sealant and attach securely to gutter with solid head rivets.

7. Gutter Support: Provide continuous eave flashing interlocked into continuous support hook at top of gutter for hanging gutter as shown on Drawings.

8. Gutter Straps: Provide 22 gauge pre-finished sheet metal straps locked into front seams on gutter and nailed into roof eave.

9. Gutter Brackets: Provide 1/8-inch x 1-inch hot dipped galvanized steel flat bar bent to match profile of gutter; match SMACNA Figure 113A.

a. Shop paint brackets per MPI EXT 5.3J:

1) First Coat: Water Base Primer, Product 134

2) Second Coat: Water Base Light Industrial Coating, Product 163

3) Third Coat: Water Base Light Industrial Coating, Product 163

4) Application: Spray or brush

10. Downspout Screens: Provide Leaf Screens at each downspout outlet.

G. Pipe Flashing - Plumbing Vents and Conduit: Fabricate to match SMACNA Figure 4-15B (flat roof) and Figure 4-20A (sloped roof) from 4 lb./sq./ ft. hard tempered lead sheet with soldered joints.

1. Fabricate to fit angle of roof slope.

2. Fabricate to accommodate each different pipe size, do not use flashing designed for larger pipe on smaller diameter pipe.

3. Provide pre-fabricated lead cap for plumbing vents.

4. Provide stainless steel clamp for securing top of flashing on conduit and piping.

H. Flashing / Trim: Fabricate to match profiles / configurations shown on Drawings from 24 gauge factory pre-finished sheet metal.

1. Where wall flashings are installed in siding / cladding that is scheduled to be field painted, provide pre-primed sheet metal.

2. Slope horizontal leg of flashings to provide positive water drainage.

3. Provide end dams at head and sill flashings to prevent water from leaking off end of flashing behind siding / trim.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate installation of sheet metal flashings with Section 07 52 00 MODIFIED BITUMEN ROOFING SYSTEM for proper sequence and for watertight assembly.

3.02 PREPARATION

A. Field verify that existing conditions and substrate layout are acceptable and comply with drawing layout.

B. Report any variations, unacceptable substrates / conditions and potential problems.

C. Do not start work until unsatisfactory conditions have been corrected.

D. Start of installation indicates acceptance of substrate and conditions.

3.03 INSTALLATION - GENERAL

A. Installation shall conform to this section and the Drawings, the roofing manufacturer's requirements and SMACNA Architectural Sheet Metal Manual (where conflicts exist, the most restrictive requirement shall apply).

B. Protect pre-finished metal from scratches or damage during fabrication.

3.04 INSTALLATION - FLASHINGS

A. Install flashings to achieve a weathertight, leak-free installation.

B. Install flashings straight and true with neat appearance.

C. Lap Joints: Lap 6 inches minimum and seal with two heavy beads of butyl sealant just prior to making lap;

1. Clean metal surfaces to be sealed thoroughly with solvent just prior to sealant application;

2. Trim off back of hem to allow tight interface and proper fit.

3. Flashing shall fit tight to each other, free of any gaps or misfit.

D. Fasten flashings to substrate securely using specified fasteners sized to hold flashings securely and as recommended by manufacturer for substrate and condition.

1. Powder / power actuated fasteners are not permitted.

E. Fasteners shall be concealed wherever possible, seal exposed fasteners watertight.

F. Coping / Cap Flashing:

1. Install continuous cleat on exterior side of wall straight and true and fasten securely at 12-inches on center maximum;

2. Connect horizontal seams with 1-inch standing seam; weatherlap vertical joints 6 inches and seal water-tight, cut off back of hem to allow proper fit;

3. Secure interior side with exposed fasteners spaced at no more than 30-inches apart.

4. Installation shall be completely water-tight and free of any looseness or movement.

3.05 INSTALLATION - GUTTERS

A. Install straight and true and as required to achieve a watertight, leak-free installation.

B. Connect to support structure securely to provide support when completely full of water without deflection, sagging or overstressed connections.

C. Construct watertight joints, corners and end closures as described under Fabrication in this section.

D. Locate drain outlet at each downspout location.

E. Install leaf screen at each downspout.

3.06 INSTALLATION - SEALANT

A. Exposed Sealant Joints: Clean and prime surfaces to be sealed in accordance with sealant manufacturer’s instructions. Install backer rod and sealant in accordance with the sealant manufacturer's installation requirements to achieve the proper sealant performance. Install sealant so that width, shape, bonding width and width to depth ratios conform to sealant manufacturer's joint design recommendations based on the amount of movement (expansion / contraction) anticipated at each joint condition to achieve a permanently watertight joint.

B. Concealed (Lap) Sealant Joints: Clean and prime surfaces to be sealed in accordance with sealant manufacturer’s instructions. Install two continuous beads of butyl sealant (primary and secondary) at each lap joint to achieve a watertight connection.

C. Exposed Fastener Heads: Where fastener heads are exposed to the weather, use self-sealing type.

3.07 WORKMANSHIP

A. Sheet metal work shall be installed using the best workmanship, including but not limited to the following:

1. Prefinished surfaces of sheet metal free of scratches, dents or damage.
2. Joints and connections shall not rely on sealant for permanent watertight integrity.
3. Flashing and copings shall run straight and true, parallel with building lines.
4. Fabricated items fit field conditions exactly without any element requiring force to install or being too large for the condition.
5. Downspouts shall be plumb and straight.
6. Joints shall interlock and align neatly and with tight fit.
7. Edges exposed to view and the weather neatly hemmed.
8. Lap joints tight and free of gapping.
9. Installation shall not trap or pond water.
10. Work securely fastened and free of loose fit or rattling.
11. Installation shall accommodate thermal expansion and contraction without causing distress to adjacent work or buckling / separation of sheet metal element.

B. Any part of the sheet metal work installed with improper or poor workmanship shall be removed and replaced at Contractor’s expense.

3.08 FIELD QUALITY CONTROL AND INSPECTIONS

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.
2. Contractor shall inspect the flashing installation as it progresses for conformance with the Contract Documents.

B. Contractor shall promptly correct any deficiencies observed in the work or noted by the roofing system manufacturer's field representative.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Replacement of Existing Roof Drains with New Roof Drains.

1.03 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Product Data: Submit manufacturer's data sheet, specifications and standard details for each product specified.

PART 2 - PRODUCTS

2.01 ROOF DRAINS

A. Roof Drain:

1. Manufacturer / Product: Jay R. Smith Mfg. Co., Model 1330 or approved.

2. Description: 8-1/2-inch diameter cast iron low profile roof drain, with flashing clamp to hold roofing materials without puncturing. Bottom outlet pipe shall match existing roof drains. Provide the following drain accessories:

a. Cast iron extension to raise clamping ring to roof height shown on Drawings.

b. Sump receiver.

c. Underdeck clamp.

d. Cast iron dome strainer.

e. Threaded outlet for connection to existing roof drain piping.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate installation with roofing installation specified in Section 07 52 00 MODIFIED BITUMEN ROOFING SYSTEM for proper sequence and for watertight assembly.

C. Coordinate installation and tie-in to existing roof drain pipes.

3.02 EXAMINATION

A. Coordinate installation with roofing work and other adjacent elements of building envelope to ensure watertight construction.

B. Verify that the existing opening in the roof deck where the existing roof drain is installed is large enough to receive the new roof drain.

3.03 PREPARATION

A. If the existing roof deck opening is not large enough for the new roof drain, core drill a larger hole in existing roof deck to receive the new roof drain.

1. Do not core drill through structural members. If there is a conflict, contact the Engineer.

3.04 INSTALLATION – ROOF DRAINS

A. Prior to installation of new roof drains, remove existing roof drain assemblies.

B. Install new roof drain per the manufacturer's installation instructions. Installation shall be watertight.

C. After the roofing work is complete, verify that the drains and rain leaders are free of debris or problems and are draining properly.

3.05 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Exterior Joint Sealers.

1.03 REFERENCES

A. References shall be the edition current as of the date of the Contract Documents.

B. American Society for Testing and Materials (ASTM):

1. ASTM C834 – Standard Specification for Latex Sealants.
2. ASTM C920 – Standard Specification for Elastomeric Joint Sealants.
3. ASTM C1193 – Standard Guide for Use of Joint Sealants.
4. ASTM D1667 – Standard Specification for Flexible Cellular Materials – Poly (Vinyl Chloride) Foam (Closed-Cell).

1.04 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations and color availability.

C. Samples: Submit two samples, 2 inch in size illustrating sealant colors for selection.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum 5 years' experience.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum 5 years' experience.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.07 COORDINATION

A. Coordinate the work with sections referencing this section.

1.08 GUARANTEE

A. The Contractor shall guaranty the sealant installation for a period of one year against defects in installed materials and workmanship including a one year watertight warranty. Correct any sealant that is found to be defective, improperly installed or leaks within a one year period at no cost to the Port.

PART 2 - PRODUCTS

2.01 SEALANTS

A. Type A – Exterior Joint Sealant: Silicon; ASTM C920, Type S, Grade NS, Class 50, Uses NT, M, G, A and O; single component.

1. Color: Color as selected to match adjacent material, selected from manufacturer's full range of available colors.

2. Product: 795 Silicone Building Sealant manufactured by Dow Corning.

3. Applications: Use for: Joints between window frames and adjacent construction (match frame color).

B. Type B – Exterior Joint Sealant: Polyurethane; ASTM C920, Type S, Grade NS, Class 25, Uses NT, M, G, A and O.

1. Color: Color as selected to match adjacent material, selected from manufacturer's full range of available colors.

2. Product: Dynatrol I XL single component or Dynatrol II two component (as required to achieve required color) manufactured by Pecora, or approved.

3. Applications: Use for:

a. Sealant for sheet metal flashing installation / joints.

b. Exterior locations requiring painted finish over sealant.

c. Other exterior joints for which no other sealant is indicated.

C. Type C – Exterior Metal Lap Joint Sealant: Butyl rubber, nondrying, nonskinning, noncuring.

1. Product: BC-158 Butyl Rubber Sealant manufactured by Pecora or approved.

2. Applications: Use for:

a. Concealed sealant bead in lap joints for sheet metal work.

b. Do not use in any location exposed to view.

2.02 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant of type recommended by sealant manufacturer for type of sealant; ASTM D1667, oversized as recommended by sealant manufacturer.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate work sequence and installation with work of other trades to provide a weathertight installation at exterior applications.

3.02 EXAMINATION

A. Inspect the substrate surfaces and joint openings and confirm they are ready to receive sealant work.

B. Confirm that joint size, configuration and conditions conform to sealant manufacturer's requirements so as to achieve manufacturer's published sealant performance.

C. Verify that joint backing and release tapes are recommended for use by sealant manufacturer with the specified sealant.

D. Do not start sealant installation until substrate surfaces and joint openings conform to sealant manufacturer’s requirements.

E. Start of sealant installation indicates installer’s acceptance and confirmation that substrate, joint openings and conditions are in conformance with sealant manufacturer’s requirements.

3.03 PREPARATION

A. Thoroughly clean and prepare joint substrate surfaces in accordance with sealant manufacturer's instructions to achieve published sealant performance.

B. Remove loose materials and foreign matter which might impair adhesion of sealant.

C. Clean and prime joints in accordance with manufacturer's instructions.

D. Protect elements surrounding the work of this section from damage or disfigurement.

3.04 INSTALLATION – SEALANTS, GENERAL

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions to achieve published sealant performance.

B. Perform installation in accordance with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension and surface bond area as recommended by manufacturer.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

3.05 CLEANING

A. Clean adjacent soiled surfaces.

3.06 PROTECTION OF FINISHED WORK

A. Protect sealants until cured.

3.07 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and

conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Curb Mounted, Impact Modified Plastic Glazed Skylights.

1.03 REFERENCES

A. References shall be the edition current as of the date of the Contract Documents.

B American Architectural Manufacturers Association (AAMA):

1. AAMA 611 – Voluntary Specification for Anodized Architectural Aluminum

C. American Society for Testing and Materials (ASTM):

1. ASTM B221 – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
2. ASTM D635 – Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
3. ASTM D1929 – Standard Test Method for Determining Ignition Temperature of Plastics
4. ASTM D2843 – Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics
5. ASTM D4802 – Standard Specification for Poly(Methyl Methacrylate) Acrylic Plastic Sheet

D. National Association of Architectural Metal Manufacturers (NAAMM):

1. NAAMM Metal Finishes Manual

E. Underwriters Laboratory, Inc. (UL).

1.04 SUBMITTALS

A. Refer to Division 1 for submittal procedures.

B. Product Data: For each type of skylight specified, include details of construction and installation, relative to applicable roofing materials.

C. Samples: Manufacturer’s color charts showing a full range of colors available for each type of skylight glazing and Aluminum Finish.

1.05 PERFORMANCE REQUIREMENTS

A. General: Provide unit skylights capable of withstanding loads indicated without failure.

B. Units shall be tested to compliance with AAMA\WDMA\CSA\101\I.S.2\A440 as required by the International Building Code.

C. Units shall be impact tested to 775 ft-lbs to comply with the intent of OSHA fall protection regulation 29 CFR 1910.23 (e)(8)*.

1.06 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide Thermoformed domes or pyramids fabricated from sheets identical to those tested for the following fire-test-response characteristics, per

ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.

1. Self-Ignition Temperature: 651 degrees F or greater when tested per ASTM D1929 on plastic sheets in the thickness intended for use.
2. Smoke density of 75 or less when tested per ASTM D2843 on plastic sheets in the thickness intended for use.
3. Relative- Burning Characteristics: As follows, when tested per ASTM D635:
    a. Impact Glazing: Burning rate of 2.5 inches per minute or less when tested on plastic glazing indicated above with a nominal thickness of 0.060 inch or the thickness intended for use.

1.06 WARRANTY

A. General: Warranties specified in this section shall not deprive the Port of other rights the Port may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

B. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weather-tight and leak-free performance. “Defects” is defined as uncontrolled leakage of water and abnormal aging or deterioration.
    1. Warranty Period: 2 years from date of Substantial Completion.

C. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. “Defects” is defined as abnormal aging or deterioration.
    1. Warranty Period for Impact Glazing: 2 years from date of Substantial

D. Finish Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work with finish defects. “Defects” is defined as peeling, chipping, chalking, fading, abnormal aging or deterioration, and failure to perform as required.
    1. Warranty Period for Anodized Finish: 1 year from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by Wasco Products, Inc.

B. Substitutions: Manufactures shall not be considered without prior approval in writing no later than ten (10) calendar days prior to bid. Substitute manufacturers must have been in the custom skylight business for not less than a period of 15 years and must submit to the Architect the following:
    1. List of similar projects successfully completed within the last five years.
    2. Proof of financial capability.
    3. Complete details of proposed skylight.
    4. Complete specifications for Architect’s review.

2.02 MATERIALS

A. Curb Frame: Bright white high performance PVC with minimum effective thickness of 0.60 inch. Provide integral condensation gutter system with corners fully welded for waterproof quality.

1. Curbs: Field Built.

B. Retainer Frame: Extruded aluminum alloy 6063-T5 (min). ASTM B221 with minimum effective thickness of 0.60 inch.

C. Plastic Sheets: Monolithic, formable, transparent (colorless and tinted) sheets with good weather and impact resistant.

1. Impact Glazing: ASTM D4802, thermoformable, Category C-2 or CC-2 Type UVA (formulated with ultraviolet absorber), with Finish 1 (smooth or polished), unless otherwise indicated.

D. Thermal Break: Fabricate skylight units with thermal chambered PVC frame.

E. Gaskets: Structural glazing tape to form adhesive bond between PVC curb and inner dome, between inner and outer dome, and between outer dome and extruded aluminum retainer. Gaskets form an air and water impenetrable barrier between adjacent surfaces.

F. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other non-corrosive metal as recommended by manufacturer.

G. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coating.

2.03 PLASTIC SKYLIGHT UNITS

A. General: Factory-assembled, curb-mounted unit consisting of impact plastic glazing, gasketing, inner frame that is incorporated into the curb, and integral curb with self-contained roof flashing flanges.

1. Products: Provide Sentinel Model DDSSP Fall Guard meeting the requirements of this section.

B. Condensation Control: Fabricate skylight units with integral internal gutters and weeps to collect and dispose of condensation.

C. Thermal Break: Fabricate skylight units with thermal chambered PVC frame.

D. Shape and Size: SSP/SAP-9898 (95-1/2-inch x 95-1/2-inch outside dimension of curb).

E. Outer Glazing: Pyramid thermoformed:

1. Acrylic (White).

F. Inner Glazing: Dome or pyramid thermoformed:

1. Acrylic (White).

2.04 FABRICATION

A. Framing Components: As follows:

1. Factory fit and assemble components.

2. Fabricate components that, when assembled, will have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.

3. Fabricate components to drain water passing joints and condensation the exterior.

4. Fabricate components to accommodate expansion, contraction, and field adjustment, and to provide for minimum clearance and shimming at skylight perimeter.
5. Fabricate components to ensure that glazing is thermally and physically isolated from framing members.
6. Form shapes with sharp profiles, straight and free of defects or deformations, before finishing.
7. Fit and secure aluminum joints by heliarc welding.

2.05 ALUMINUM FINISHES

A. General: Comply with NAAMM “Metal Finishes Manual” recommendations for application and designations of finishes.

B. Finish designations prefixed by AA conform to the system for designations of aluminum finishes established by the Aluminum Association.

1. Clear-Anodized Finish, Class I: AA-C22A41 complying with AAMA 611.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate work sequence and installation with work of other trades to provide a weathertight installation.

C. Coordinate work with Section 06 10 00 for proper framing of the field built curb for the skylight units.

3.02 EXAMINATION

A. Examine substrates and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting skylight performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Start of installation indicates installer’s acceptance and confirmation that substrate, openings and conditions are in conformance with manufacturer’s requirements.

3.03 PREPARATION

A. Metal Protection: As follows:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by paining contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
2. Where aluminum will contact pressure-treated wood, separate dissimilar materials by methods recommended by manufacturer.

3.04 INSTALLATION

A. General: Comply with manufacturer’s written instructions for protecting, handling, and installing skylight components.

B. Coordinate with installation of roof deck and other substrates to receive skylight units.

C. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that each element of the work performs properly and that combined elements are waterproof and weathertight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

D. Counter Flashing: Where counter flashing is required as component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counter flashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

3.05 CLEANING AND PROTECTION

A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.

3.06 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Skylight Protection Screen.

1.03 REFERENCES

A. References shall be the edition current as of the date of the Contract Documents.

B. American Society for Testing and Materials (ASTM):

1. ASTM B221 – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes

1.04 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Product Data: Include details of construction and installation, relative to applicable skylight frame.

1.05 PERFORMANCE REQUIREMENTS

A. General: Screen is tested to meet the requirements of OSHA 29 CFR 1910.23.

1.06 WARRANTY

A. General: Warranties specified in this section shall not deprive the Port of other rights the Port may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

B. Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship as defined by the manufacturer.

1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by Wasco Products, Inc.

B. Substitutions: Manufactures shall not be considered without prior approval in writing no later than ten (10) calendar days prior to bid. Substitute manufacturers must have been in the skylight protection and screen business for not less than a period of 15 years and must submit to the Architect the following:

1. List of similar projects successfully completed within the last five years.

2. Proof of financial capability.

3. Complete details of proposed skylight protection.

4. Complete specifications for Architect’s review.

2.02 MATERIALS

A. Screen: Welded steel wire mesh, 4-inch x 4-inch spacing, wire diameter - 0.188-inch min. unfinished stainless steel.

B. Frame: Extruded aluminum alloy 6063-T5 (min). ASTM B221 with minimum effective thickness of 0.090-inch.

1. Frame includes a pocket for the edges of the screen material, and a downward leg for attachment to any vertical surface of a skylight retainer or frame.

C. Adjustment Bar: Extruded aluminum bar stock, 1/4-inch x 1-inch, alloy 6063-T5 (min). ASTM B221.

1. Adjustment bar is slotted for width adjustment in the field.

D. Fasteners: Nonmagnetic stainless steel or other non-corrosive metal as recommended by manufacturer. Exposed galvanized fasteners are not acceptable.

2.03 FABRICATION

A. Fabricate frame components to factory specifications.

B. Assemble frame legs (2 sides) and adjustment bar (2 sides) into a frame using 1/4-14 x 1-inch hex head stainless steel fasteners.

C. Install screen in frame and fix into frame with 1/4-14 x 1-inch hex head stainless steel fasteners.

D. Screen unit shall be the correct shape and size to cover the skylight unit.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate work sequence and installation with Section 08 62 00 UNIT SKYLIGHTS.

3.02 EXAMINATION

A. Examine substrates and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting screen performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 PREPARATION

A. Metal Protection: As follows:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by paining contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

3.04 INSTALLATION

A. General: Comply with manufacturer’s written instructions for protecting, handling and installing fall protection components.

3.05 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Surface preparation and field painting

1.03 REFERENCES

A. References shall be the latest adopted edition.

1. Master Painters and Decorators Association (MPI):

a. MPI – Architectural Painting Specification Manual

1.04 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Product Data: Provide product data on each different paint finishing product.

C. Paint Schedule: Provide schedule of proposed paint products for the items to be painted in format matching the Schedule found in Part 3 of this section.

D. Paint Draw Down Samples: Submit two painted samples, illustrating selected colors for each color and system selected. Submit on heavy paper card stock, 8 x 10 inch in size.

1. Sheen Samples: Submit samples of different sheens for each color as directed by Engineer for selection.

1.05 QUALITY ASSURANCE

A. Single Source Responsibility: Paint products used for painting a given material / surface shall be manufactured by the same company.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum five years successful experience.

1.06 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame and smoke rating requirements for products and finishes.

1.07 DELIVERY, STORAGE AND PROTECTION

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and / or as required by manufacturer's instructions and / or MPI MANUAL.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Provide environmental conditions as required by paint manufacturer, MPI Manual and as follows:

1. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer’s written literature.
2. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer’s written literature.
3. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 - PRODUCTS

2.01 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, select products from the MPI Manual Manufacturer's Product List for Manufacturers listed above which installer has used on other projects and are known to provide excellent performance including:

1. A soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
2. Good hiding characteristics.
3. Good flow and brushing properties.
4. Good mildew-resistance.
5. Capable of drying or curing free of streaks or sags.

B. Certain manufacturer's products may not provide adequate hiding ability with the number of coats specified. Contractor may be required to provide additional coats at no additional cost if products are selected that do not provide adequate hiding ability.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate selection of paint products to be applied over prime coats applied by others for compatibility and good adhesion.

C. Schedule work to follow completion of dust / dirt producing work.

3.02 EXAMINATION

A. Verify that surfaces are clean and ready to receive paint as required by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application or performance.

C. Start of installation indicates acceptance of substrate, finish and conditions and responsibility for proper finish and appearance.

3.03 SURFACE PREPARATION

A. Conform to MPI Manual surface preparation recommendations, paint manufacturer’s recommendations and the following for preparation of each different surface scheduled to be painted:

B. Substrate: Clean substrate surfaces thoroughly before applying any primer or paint following paint manufacturer’s cleaning recommendations; allow substrate to dry thoroughly before starting paint application.

3.04 PROTECTION

A. Protect finished surfaces, landscaping, adjacent property and elements surrounding the work of this section from overspray, damage or disfiguration.

3.05 APPLICATION

A. Apply products in accordance with manufacturer's instructions and MPI Manual.

B. Apply sufficient wet film thickness to provide good hiding, do not thin product.

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry.

E. Allow applied coats to dry completely before next coat is applied.

F. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

G. Vacuum clean surfaces of loose particles. Remove dust and particles just prior to applying next coat.

3.06 CLEANING

A. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.07 SURFACES THAT REQUIRE PAINT FINISH

A. Paint materials / surfaces described below under SCHEDULE - PAINT SYSTEMS.

3.08 SCHEDULE - PAINT SYSTEMS (WORK IS MPI PREMIUM GRADE)

A. Materials / surfaces scheduled hereinafter shall be painted in accordance with designated MPI Systems and Product requirements.

1. Use the same manufacturer for each coat specified for a given system, do not intermix different manufacturer’s products within the same paint system unless specifically approved by manufacturer(s) and products are known to be compatible for use together.

B. PVC Pipe Downspouts:

1. Exterior – MPI EXT 6.8.

a. First Coat: Water Base Bonding Primer, MPI Product #17

b. Second Coat: 100% acrylic latex, MPI Product #15

c. Third Coat: 100% acrylic latex, MPI Product #15

d. Application: Spray or brush

C. Galvanized Steel: Finish every surface.

1. Exterior – MPI EXT 5.3D.

a. First Coat: Vinyl Wash Primer, MPI Product #80.

b. Second Coat: Epoxy, MPI Product #101.

c. Third Coat: Polyurethane, MPI Product #72, fast drying, with minimum Pencil Hardness of 4H per ASTM D3363.

d. MPI Gloss Level 5.

D. Ferrous Metal: Finish every surface.

1. Interior – MPI EXT 5.1G.

a. First Coat: Epoxy Zinc Rich Primer, MPI Product #20.

b. Second Coat: High Build Epoxy, MPI Product #108, fast curing.

c. Third Coat: Polyurethane, MPI Product #72, fast drying, with minimum Pencil Hardness of 4H per ASTM D3363.

d. Application: Spray.

e. MPI Gloss Level 5.

3.09 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Post and Wire Grid Seagull Bird Deterrent System

B. Gutter Spikes

1.03 SYSTEM DESCRIPTION

A. Post and Wire Bird Deterrent: Bidder-designed manufactured wire grid seagull deterrent system consisting of steel cable spanning between posts at a regular grid spacing. Components and accessories to be by a single manufacturer.

1.04 SYSTEM DESIGN RESPONSIBILITY

A. Seagull Deterrent System: The layout indicated on the Drawings is conceptual only and intended only to show certain design requirements and minimum quantities of posts and wires. Provide a final design and system layout to ensure a functional seagull deterrent for the existing roofs. Provide the required elements for a complete and functional seagull deterrent system.

1.05 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Submittals Prior To Beginning Work:

1. Product Data: Submit current product literature describing the proposed products with adequate specificity to determine compliance with the specifications. Where product data sheets, with multiple products, circle or otherwise indicate proposed products.

2. Shop Drawings - Dimensioned plan layout showing relevant roof conditions, dimensions, system components and general layout.

3. Sample warranty language.

1.06 PRODUCT DELIVERY STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer’s original sealed and labeled containers and in quantities required to allow continuity of application.

1.07 SAFETY

A. The Contractor is solely responsible for means and methods as they relate to safety and shall understand, implement and comply with applicable local, state and federal requirements that are safety related.

1.08 WARRANTY

A. Warranty: Provide manufacturer’s 10 year material warranty on the system components, except for the monofilament nylon line.

PART 2 - PRODUCTS

2.01 SEAGULL DETERRENT SYSTEM

A. Manufacturer: Seagull deterrent systems designed and manufactured by Seagull Control Systems are the basis of design and are the standard of quality and function required for this

project. Post and wire type seagull deterrent systems that are designed and manufactured by other manufacturers that meet or exceed this standard of quality and function shall submit a substitution request for review in accordance with the requirements of Division 01.

B. General: Products shall be manufactured and supplied by the post and wire seagull deterrent manufacturer.

1. Posts: Heavy duty aluminum or stainless steel, 7-feet high. Welded stainless steel loop for connecting the wire arrays.

2. Post Mounting Brackets: Provide custom fabricated welded steel brackets, hot dipped galvanized with painted finish, conforming to requirements of Section 05 50 00 METAL FABRICATIONS and as shown on the Drawings. Coordinate the required diameter and length of steel rods to fit within the manufacturer's standard heavy duty posts.

   a. Field painted finish specified in section 09 90 00 PAINTS AND COATINGS.

3. Guy Wire Mounting Brackets: Provide custom fabricated welded steel brackets, hot dipped galvanized with painted finish, conforming to requirements of Section 05 50 00 METAL FABRICATIONS and as shown on the Drawings.

   a. Field painted finish specified in section 09 90 00 PAINTS AND COATINGS.

4. Wire: Nylon coated stainless steel wire with nickel coated copper crimps.

5. Guy Wires: Nylon coated stainless steel wire with nickel coated copper crimps.

6. Nylon Lines: Highly reflective monofilament nylon.

6. Other Components: Provide as required for complete and functional seagull deterrent system.

7. Accessories, Fasteners and Miscellaneous: Provide as required for installing a complete and functional seagull deterrent system.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

3.02 INSTALLATION

A. Install seagull deterrent system in accordance with the manufacturer's design and installation requirements. The installed system shall effectively prevent seagulls from landing anywhere on the roof.

3.03 WORKMANSHIP

A. Bird control devices shall be installed using the best workmanship in conformance with manufacturer's best practices.

B. Any part of the bird control devices installed with improper or poor workmanship shall be removed and replaced at Contractor's expense.

3.04 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including Divisions 00 and 01 Specification Sections, apply to work of this section.

1.02 SECTION INCLUDES

A. Roof Anchors (custom fabricated base plate for roof anchor posts specified herein is specified in Section 05 50 00 METAL FABRICATIONS).

B. Note: Fall protection systems for construction workers on this project are the sole responsibility of the Contractor and are not included in this section.

1.03 SUBMITTALS

A. Refer to Division 01 for submittal procedures.

B. Product Data: Provide manufacturer's product information sheet describing the roof anchor post.

1.04 QUALITY ASSURANCE

A. Manufacturer: Company specializing in the design, fabrication and installation of fall protection systems and maintenance equipment, with at least 5 years of successful documented experience.

B. Loading and Safety Assurance: Work of this section shall meet the requirements of governing codes and authorities having jurisdiction and shall comply with properly engineered loading and safety criteria for the intended use.

PART 2 - PRODUCTS

2.01 ROOF ANCHOR POST - FIXED

A. Fixed Roof Anchor Post: Manufactured round steel pier assembly suitable for shop welding onto a custom fabricated steel base plate, hot-dipped galvanized after fabrication, designed specifically for fall protection systems and conforming to the following:

1. Anchor Post Height: 12-inch as required for minimum 8-inch exposed height above surface of roofing.
2. Custom Base Plate: Specified in Section 05 50 00 METAL FABRICATIONS
3. Strength Rating – Design Load: 5,000 lbs. in any direction minimum.
4. Structural Design – Anchor Post: By anchor manufacturer.
5. Fasteners: Hot dipped galvanized steel lag bolts, size as shown on Drawings.
6. Roof anchor post shall conform to the requirements of OSHA and WISHA regulations for fall protection systems.
7. Manufacturers:
    a. Guardian Fall Protection
    b. Miller Fall Protection
    c. Super Anchor Safety

2.02 FABRICATION

A. Roof Anchor Fabrication: Provide roof anchor post to Section 05 50 00 METAL FABRICATIONS fabricator for welding to custom fabricated base plate.

2.03 FINISHES

A. Paint roof anchor assemblies after installation. Painting is specified in Section 09 90 00 PAINTS AND COATINGS.

PART 3 - EXECUTION

3.01 COORDINATION

A. Review, coordinate and accommodate work of other trades that interface with, affect or are affected by the work of this section so as to facilitate the execution of the overall Work of this project in a coordinated and efficient manner.

B. Coordinate steel base plate fabrication with Section 05 50 00 METAL FABRICATIONS.

C. Coordinate installation of roof anchors with Section 07 52 00 MODIFIED BITUMEN ROOFING SYSTEM installation.

3.02 EXAMINATION

A. Examine existing building structure and job conditions before commencement of work for conformance to the design shown.

B. Field verify that the layout of existing roof structure to which the roof anchors will be attached matches the roof anchor attachment design shown on the Drawings; report any discrepancies to the Engineer.

C. Commencement of work denotes Contractor’s confirmation that the existing building structure and job conditions conform to design shown on Drawings.

3.03 INSTALLATION

A. Install the fabricated roof anchors as shown on the Drawings.

B. Drill pilot holes for lag bolts in wood sized to prevent splitting the wood beams and to achieve the maximum withdrawal strength of the lag bolt.

1. Align bolt pilot holes near centerline of existing roof beams.

2. Attach lag bolts securely to building structure in accordance with the details shown on the Drawings to achieve the full design load of the anchor.

C. Confirm that bolted connections are secure.

3.04 FINAL INSPECTION

A. Verify that work done under this section has been completed correctly and that the installed products function properly. Adjust items where necessary to ensure satisfactory operation.

3.05 FIELD QUALITY CONTROL

A. Contractor Quality Control: Employ / assign quality control personnel to monitor the work of this section for conformance to the requirements of this section and to good construction practices.

1. Contractor is solely responsible for managing and controlling the quality of the work and conformance with the requirements of this section.

END OF SECTION