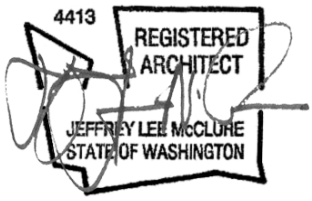
SWIFT CENTER BUILDINGS 22 AND 25 REROOF PROJECT

Port of Skagit

PROJECT MANUAL



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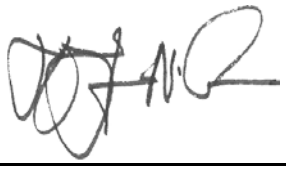
June 15, 2022

SIGNATURE BLOCK



Approved By: _____ 15 June 2022

Jeff McClure, AIA — Date
RMC Architects
Prime Consultant

SECTION 00 01 10 - TABLE OF CONTENTS

Specification Sections are listed with the number of pages in each Section. The Contractor shall check his copies of the Specifications with the Table of Contents to be sure they are complete.

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SECTION 00 01 15 – DRAWING INDEX

PART 1 - GENERAL

1.1 LIST OF DRAWINGS

The Drawings listed below are hereby made part of this contract.

G001 Cover Sheet

Architectural Drawings

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A200 Building 22 (Plumbing and Carpentry Shop) Demolition and Proposed Roof Plans

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END OF SECTION 00 01 15

SECTION 01 10 00 – SUMMARY OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the General Contractor's Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 WORK COVERED BY THE CONTRACT DOCUMENTS

A. This project includes various trades. Coordinating of construction activities by the Contractor will be required to ensure that the project will not affect the operation of Owner and Agency personnel throughout the entire construction process. Site access is limited and adjacent areas will remain occupied during construction.
   1. Each trade is governed by General and Supplemental Conditions of the Contract and all provisions of Division 1, General Requirements, whether or not specifically referenced for its particular work.

B. Briefly, and without force and effect upon the Contract Documents, the Work of the Contract can be summarized as follows:

   1. The project is to re-roof Buildings 22 (Plumbing and Carpentry Shop) and 25 (Planer Shop / Cascade Job Corps College Career Center), located on the SWIFT Center campus, in the City of Sedro-Woolley, Washington. This work includes removal and replacement of all existing asphalt composition shingles, underlayment, flashings, gutters and downspouts. Building 22 scope includes an additional layer of plywood sheathing above the existing tongue-and-groove wood sheathing, and reconstruction of two existing canopies at the entrances to each portion of the building. The Work area is over currently occupied space.

C. The Work is included in a Base Bid scope, as indicated and as accepted.

D. Estimated Work duration to be 45 Calendar Days to Substantial Completion.

1.03 SPECIAL REQUIREMENTS

A. The Contractor shall photograph and videotape in sufficient detail the existing site, grounds and area of work that will be affected by construction and haul routes to substantiate existing conditions that might otherwise be construed as damage caused by the Contractor. Date all material and deliver a copy to the Owner within (7) days following the Notice to Proceed. Any damage within the limits of construction or areas used by the Contractor outside of the limits of construction shall be the responsibility of the Contractor to repair unless the damage can be positively identified by photograph or videotape as being a previously existing condition.

   1. Photo-documentation of special, secure areas may require special

handling and storage. Owner will identify when these circumstances are present and how the photo documentation will be handled.

1.04 HAZARDOUS MATERIALS

A. Hazardous materials are anticipated to be impacted by the work of this project. Hazardous materials have been identified or are known to exist within the project area at the time of bid. Should any work activities by this Contract discover/disturb any additional hazardous material, the Contractor is directed to immediately cease work activity in the area found to be potentially hazardous, notify the Owner, and await Owner's directions as the appropriate action to be initiated.

B. All products used in the construction shall be asbestos free. Products which are described as "less than 1% asbestos" or "virtually asbestos free" are not acceptable. Only products which are certified asbestos free are permitted in the construction of this project.

C. All paint products used in the construction shall be lead free.

1.05 WORK UNDER OTHER CONTRACTS

A. Work on the Project which may be executed by others and which is excluded from this Contract, are as follows:

1. Prior to the Contractor's Notice to Proceed, the Owner will remove all moveable items within the limits of construction that are not identified to remain or be removed or reused by the Contractor.

2. The removal from the construction area of any containers of toxic or hazardous chemicals or materials is to be accomplished by the Owner prior to any construction activities commencing. Should there be any known containerized hazardous materials left in the construction area, Contractor shall be informed by the Owner.

1.06 CONTRACTOR'S WORK & RESPONSIBILITIES - GENERAL

A. Unless otherwise indicated, Contractor's work and responsibilities include, but are not limited to the following:

1. Providing and paying for labor, materials, equipment, tools, machines, facilities, and services necessary for proper execution and completion of work.
2. Paying required taxes.
3. Securing and paying for, the following items as necessary for proper execution and completion of work (as applicable at time or receipt of Bid):
   a. Permits; See the General Conditions of the Contract.
   b. Fees.
   c. Licenses.
   d. Inspections, unless otherwise noted.

4. Enforcing strict discipline and good order among employees.
   a. Smoking shall not be permitted within any building or within 25 feet of any building entrance. Smoking shall not be permitted on building rooftops or parking garages. All tobacco products are prohibited on campus except in designated areas.
   b. No Contractor employee shall bring family members or animals onto project site.
5. Using new materials, unless otherwise noted.
6. Maintaining required egress and other requirements in accordance with governing Codes and Ordinances throughout the work.
7. Disposing of demolition debris and other non-usable items on a regular basis. Do not allow debris to accumulate. Do not leave food waste to attract rodents.
8. Maintaining all existing utilities used by Port personnel.
9. Maintain in a secure state all areas used or controlled by the Contractor.
10. Compliance with all OSHA and WISHA requirements.
11. Ensuring that all subcontractors are familiar with requirements of Division 0, Division 1, and the work of other sections related to its own work.
12. Giving required notices.
13. Providing hazard free Project site.

B. Do not employ on work persons not skilled in assigned tasks.

1.07 WORKING HOURS

A. The project site has a number of adjacent businesses and public access, which will continue to conduct business during the course of this project. At any given time, these property Owners may or do operate twenty-four (24) hours per day, seven (7) days per week.

B. Contractor's normal working hours for this project shall be defined as follows: Normal working hours for this project are defined as 7:00am to 7:00pm Monday through Friday. Outside working hours for this project are defined as 7:01pm to 6:59am Monday through Friday. Construction phasing and work hours are identified in the Contract Documents.

Contractor's normal working hours may, at Contractor's option only with advance permission, also include weekends and Holidays which shall be defined as beginning at 7:01pm Friday evening and ending at 6:59am Monday morning.

Owner approval of weekend work must be obtained before weekend or holiday work will be permitted. Contractor shall notify Owner of intent to engage in weekend or holiday work a minimum of seven (7) days in advance of dates of work. Owner reserves right to deny request for weekend or holiday work depending on potential conflicts with other activities that may be occurring. Denial of request for weekend or holiday work shall not be cause for a delay claim to project.

C. The A/E and Owner Project Manager may not typically be working during Contractor's normal working hours as defined above. Contractor shall incorporate

any affect that this may have on the progress of the project as part of the Base Bid of the project – no overtime payments will be authorized for Contractor or Subcontractors to communicate with the A/E or Owner Project Manager outside of Contractor's normal working hours nor will time delays be recognized due to the unavailability of these parties during Contractor's normal working hours.

D. All service outages and electrical tie-ins will be required to be made at specific times and may occur only with advance notification and Owner approval. The Contractor shall be responsible for scheduling and completing this work in compliance with the requirements of the contract documents. Refer to Temporary Facilities & Controls for scheduling service interruptions and outages with the Owner. Refer to Project Coordination for specified utility outage and tie-in requirements.

E. Weekly and Special construction meetings during the defined workday are to be attended by the Contractor's Project Manager, Superintendent, Quality Control Representative and Subcontractor representative(s) of current work in progress.

F. At the end of the Contractor's normal working hours, adjacent areas to the Project shall be suitable for normal public access and adjacent business operations. The Contactor shall continue working, at no additional cost, to rectify anything affecting "normal operations" caused by Contractor work.

G. The Contractor shall provide the Owner a contact list of people who are capable of addressing an emergency issue that may occur outside of Contractor's normal working hours.

1.08 PREMIUM PAY

A. Any overtime required to complete this Project outside the Contractor's defined normal working hours shall be included as a part of this contract. No additional payments will be authorized for work performed on weekends, holidays, time required to attend meetings outside the Contractor's normal working hours, or time outside the Contractor's normal working hours required to communicate any identified issues from a previous work shift.

1.09 OWNER'S USE OF PREMISES

A. Owner will make all areas of work accessible to the Contractor by the date of the Notice to Proceed.

B. There may be other temporary or permanent facilities in use by other Port Operations in the vicinity of this project. The Contractor shall coordinate construction staging and access to the Work to avoid disruption to activities within other facilities/or Port uses.

C. Owner will maintain existing lawn and landscape areas outside the Contractor's limits of construction.
   1. During the project contract time, the Contractor is to maintain the appearance of landscaping, grass and other features within its limits of construction as they were when turned over to the contractor.

2. Contractor shall provide reasonable and safe access for Owner's personnel as needed for maintenance of these areas.
3. Contractor shall provide continued electrical and water service to any existing automatic irrigation system affected by the work while it is operational during the construction period.

D. Owner's personnel or agents will be present on a limited basis during the construction period as necessary to maintain or inspect existing facilities.
1. Contractor shall provide Owner's personnel reasonable and safe access and escort as needed to maintain and inspect facilities.

1.10 CONTRACTOR USE OF THE PREMISES

A. During the construction period the Contractor shall have use of the premises in areas containing project work as indicated in the Contract Documents. Coordinate ingress and egress to minimize disruption of traffic and Owner's use of the premises. Contractors shall not block ingress and egress to accessible entrance, accessible routes of travel or accessible parking.

B. Contractor shall control, secure and have responsibility for certain portions of the project site and building areas from the date when the area is vacated by Owner to the date of Substantial Completion.

C. Monitor and secure portions of the buildings and site under Contractor's control to prevent unauthorized access. Inspect premises at end of each work day to ensure all doors are locked and exterior openings are closed and secure.

D. Keep existing driveways and entrances serving the site clear at all times. Do not use these areas for parking or storage of materials, except where noted.

E. Do not unreasonably encumber the sites with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary, obtain and pay for such storage off-site.

F. Limit construction access to only those areas that require work under this Contract.

G. Contractor is fully responsible for damage or loss that occurs to existing facilities and public as a result of the work performed. Take precautions to protect existing facilities and the public. Immediately repair or replace items damaged or lost as a result of work under the Contract.

H. Cooperate fully with the Owner during construction operations to minimize disruptions of Owner's operations at and around the project site.

I. Assume full responsibility for protection and safekeeping of products stored on-site or in off-site storage facilities.

J. Do not use the following components except as indicated:
1. Owner occupied areas and accessible route of travel without permission

2. Parking or accessible parking areas other than indicated.
3. Owner's garbage and recycle dumpsters.

K. The existing buildings and surrounding surfaces that are affected by this Project are to be maintained in a watertight condition throughout the construction period. At all times during the Project, the Contractor is to cover any new horizontal or vertical surfaces exposed by construction work which have not been made watertight by the installation of new materials prior to the end of the work shift. Repair damage immediately caused by water infiltration.

1.11 MISCELLANEOUS PROVISIONS

A. Stored Products
1. Assume full responsibility for the protection and safekeeping of products under this Contract, stored on and off the site.
2. Move any stored products, under Contractor's control, interfering with operations of the Owner or separate contractor.
3. Obtain and pay for the use of additional storage or work areas needed for operations.

B. Notify Subcontractors to become familiar with requirements of General Contractor's Contract provisions and the work of Sections related to their own work. Instruct them that these conditions and requirements apply to their work in each Section of the technical specifications.

C. Contractors and Subcontractors submitting bids for this Project are required to thoroughly familiarize themselves with specified products and installation procedures. Submit any objections or substitution requests for the products and procedures specified in accordance with Product Requirements. Submittal of Bid constitutes acceptance of products and procedures specified.

D. Conflicts & Omissions in Contract Documents
1. Bring immediately to A/E's attention any conflicts and omissions between the Drawings and Specifications and between the Drawings or Specifications and actual site conditions. In the event of a conflict or discrepancy among or in the Contract Documents, interpretation shall be governed as indicated in the General Conditions.
2. Where conflicts and omissions have not been brought to A/E's attention, it is understood that Contractor has bid the most costly method or methods.

E. Mechanical/Electrical Requirements of General Work
1. Use accepted Public Work Industry Standards for the characteristics of the respective mechanical and electrical services to be connected to units of general work. Provide units manufactured or fabricated for proper connection to and utilization of available services. Except as otherwise indicated, final connection of mechanical service to general work is defined as being mechanical work, and final connection of electrical service to general and mechanical work is defined as being electrical work.
2. Except as otherwise indicated, comply with applicable provisions of the National Electrical Code (NEC) and standards by National Electrical Manufacturer's Association (NEMA), for electrical components of General

Work. Provide Underwriters Laboratories listed and labeled products where applicable.

F. It is the Contractor's responsibility to verify all field measurements, survey control, staking and conditions. No allowance will be made for any items incorrectly fabricated or installed due to failure to perform such verification prior to commencing the work.

1.12 PERMITS AND FEES

A. General.
1. The Owner will obtain and pay for the Building Permit.
2. The Contractor shall obtain all other permits and local business licenses necessary for the execution of the work and pay all permit and miscellaneous fees required by the appropriate Authority Having Jurisdiction (AHJ).
3. The Contractor shall coordinate and schedule all work with respective permitting agencies and utility companies necessary for completion of the work.
4. Contractor shall be responsible for providing all information, documents, and fees to the permitting agencies and utility companies within 30 days after issuance of the Notice to Proceed as necessary to obtain and coordinate permits and utility connections.

B. The Drawings and Specifications have been submitted for plan review to the appropriate AHJ, so that permits will be available to the Contractor for this project on or before the Date of Notice to Proceed.

1.13 UTILITIES

A. Existing Utilities
1. Utilities of record are shown on the Drawings insofar as possible to do so. These however, are shown for convenience only and neither the Owner nor A/E assumes responsibility for improper locations or failure to show utility locations on the Drawings.
2. The Contractor shall contact all utility companies to perform a site locate of the respective utilities, including but not limited to telephone/cable/data, electrical, gas, sewer, water and storm services. Notify Owner's Site Representative when such utility locates are to take place.
3. The Contractor is responsible to locate and protect all public utilities. The Contractor is to work with Owner staff for locating and protecting all utilities that belong to the Owner. See other applicable Sections of Divisions 01 and 02 for more information.
4. Exercise reasonable care to prevent damage to existing utilities. If damage does occur, immediately notify Owner to determine appropriate repair. If repair is a life safety issue, proceed with necessary repairs to eliminate this issue and make final repairs upon arrival and approval of Owner. Contractor shall not leave site until repairs have been accomplished.

B. Coordinate all new utility service requirements with serving utility companies including, telephone/cable/data, electrical, gas, sewer, water and storm services. Observe specification standards, written details, and sketches showing equipment locations and dimensions as indicated by the utility company. Coordinate scheduling of utility company work with all other trades.

C. Utility Costs
1. Contractor shall be responsible for securing all public utility connection, tap and inspection fees necessary to make the project fully operational. See Supplemental Conditions for reimbursement / payment of utility connection charges. The Owner will not reimburse the Contractor for additional charges due to the Contractor's lack of coordination, timelines or schedules and payment of charges.
2. Contractor to obtain and pay for, without reimbursement from Owner, permits and fees required for water usage from fire hydrants.

D. Utility shut-downs may not occur prior to the Date of the Notice to Proceed, or after the date of Substantial Completion.

E. Contractor to provide all layout, site preparation, trenching, backfilling, patching and restoration work required for utility work at no additional cost to the Owner.

F. See Temporary Facilities and Controls Section to coordinate with Owner PM for using existing permanent utilities.

PART 2 – PRODUCTS

2.01 ROOFING MATERIAL

A. Special requirements for substitution requests on roofing, siding WRB's, and membrane waterproofing are required for this project. The submittals are to be received by the A/E no later than 14 days prior to bid proposal date. These same products will require a water tightness warranty as specified.

PART 3 – EXECUTION

The Contractor shall be aware of all special requirements for the Project execution described in the Contract Documents. These items consist of, but are not limited to: specific time frames for work, sequence and special requirements for site conditions, demolition, load limits, and all other criteria described in the Contract Documents.

END OF SECTION 01 10 00

SECTION 01 21 00 - ALLOWANCES

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. Contingency allowances, both estimated values and those derived from Unit Prices. Refer to Section 01 22 00.

1.2 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the Extension / Allowance and are to be included in the Base Bid of the Contract Sum. These costs include delivery, installation, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

E. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.

2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance Number 1: Contingency Allowance: Include a contingency allowance based on Unit Price Extension for replacement of damaged / unsuitable roof sheathing material. Provide Unit Price and Extension amount (Unit Price multiplied by Area) as part of Base Bid.

1. This allowance includes material cost, receiving, handling, installation, and Contractor overhead and profit.

B. Allowance Number 2: Contingency Allowance: Include a contingency allowance based on Unit Price Extension for replacement of damaged / unsuitable fascia (and miscellaneous wood trim) material. Provide Unit Price and Extension amount (Unit Price multiplied by Length) as part of Base Bid.

1. This allowance includes material cost, receiving, handling, installation, and Contractor overhead and profit.

C. Allowance Number 3: Contingency Allowance: Include a contingency allowance of $5,000 for use of Hazardous Material Abatement.

1. This allowance includes material removal, handling, disposal, and Contractor overhead and profit.

END OF SECTION 01 21 00

SECTION 01 22 00 – UNIT PRICES

PART 1 GENERAL

1.01 SUMMARY

A. This Section specifies administrative and procedural requirements for unit prices.

1. A unit price is an amount proposed by Bidders and stated on the Bid Proposal as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the quantities of Work required by the Contract Documents are increased or decreased.
2. Unit prices include all necessary material, overhead, profit and applicable taxes.
3. Refer to individual Specification Sections for construction activities requiring the establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

B. Schedule: A "Unit Price Schedule" is included at the end of this Section and will need to be filled out within the Bid Form. Specification Sections referenced in Part 3 of this Section contain requirements for materials and methods described under each unit price.

C. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this Work evaluated by an independent third party acceptable to the Contractor at the Owner's expense.

Unit prices do not apply to Work the Contractor performs for its own convenience or for correction of unacceptable work.

1.02 DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Unit prices include all necessary labor, material, equipment, delivery, disposal, installation, insurance and other overhead, profit and delay impact costs.

1.03 PROCEDURES

A. Measurement by Contractor and observation and approval by Owner’s representative or consultant and as described below.

B. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent third party acceptable to Contractor.

C. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the list contain requirements for materials described under each unit price

D. Prior to use of Unit Price Allowance, the Contractor shall notify the Owner in writing of intent to use and begin tracking Unit Price quantities.

PART 2 PRODUCTS (Not Applicable).

PART 3 EXECUTION

3.01 LIST OF UNIT PRICES

General: Division 06 “Rough Carpentry” section applies to work of Unit Prices 1 through 2.

A. Unit Price Number One – Removal and Replacement of Structural Roof Sheathing:

1. The Base Bid amount assumes that approximately 10% of the existing structural sheathing currently in place is not suitable to receive new underlayment and roofing material. Should material be encountered that is rotted or otherwise damaged, the Contractor shall remove these areas and replace with wood planks or panel goods suited to match the adjacent assembly in grade and thickness. The unit price shall be applied to areas Contractor and Owner’s representative agree upon, and shall be installed in a manner where the sheathing is properly supported by adjacent structural framing members. The Extended Price items shall be listed as Allowances in the Contract and are included within (and not in addition to) the Base Bid.
2. In the event that greater or fewer areas of unsuitable structural sheathing are encountered, the Unit Prices will govern payment or credit for this scope of work. When sheathing areas are encountered which the Contractor believes to be unsuitable, Contractor shall notify Architect’s field personnel, and delineate the extent of the unsuitable material prior to removal. Contractor, Architect, and Owner’s representative shall coordinate extents of unsuitable material to be removed.
3. “Square Foot” / “S.F.” of plank or panel area shall be the unit of measurement.

B. Unit Price Number Two – Removal and Replacement of Wood Fascia:

1. The Base Bid amount assumes that approximately 10% of the existing wood fascia behind existing gutters is not suitable to receive new metal flashings and gutters. Should material be encountered that is rotted or otherwise damaged, the Contractor shall remove these areas and replace with primed wood boards suited to match the adjacent in grade and physical dimensions. The unit price shall be applied to areas Contractor and Owner’s representative agree upon, and shall be installed in a manner where the fascia is properly supported by adjacent structural framing members. The Extended Price items shall be listed as Allowances in the Contract and are included within (and not in addition to) the Base Bid.
2. In the event that greater or fewer areas of unsuitable wood fascia are encountered, the Unit Prices will govern payment or credit for this scope of work. When fascia is encountered which the Contractor believes to be unsuitable, Contractor shall notify Architect’s field personnel, and delineate the extent of the unsuitable material prior to removal. Contractor, Architect, and Owner’s representative shall coordinate extents of unsuitable material to be removed.
3. “Linear Foot” / “L.F.” of wood fascia shall be the unit of measurement.

3.02 UNIT PRICE SCHEDULE

As a basis for establishing the unit cost, assume the quantities listed in the table below. This is not a guarantee that any quantity of work described will be required for the project. The undersigned proposes that the following unit prices shall govern additions to, or deductions from, the Base Bid amounts for work items stipulated below. These prices shall include full compensation for labor, materials, equipment, overhead, insurance, bond and profit during the course of the work. The unit price allowance amount noted as the Extension below shall be included in your base bid.

Refer to Bidder's Breakdown of Total Bid Amount within Bid Form – failure to include Unit Price and Extension / Allowance may disqualify Bid.

Extension / Allowance Breakdown by Unit Price				
No.	**Unit Price Description**	**Qty.**	**Unit Price**	**Extension / Allowance**
1	**Sheathing Replacement (10%)**	**1,050 S.F.**	**$ /S.F.**	**$**
2	**Fascia / Trim Replacement (10%)**	**72 L.F.**	**$ /L.F.**	**$**

END OF SECTION

SECTION 01 26 00 — CHANGE ORDER PROPOSAL AND CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

A. Change Order Proposal (COP): Owner's standard form or approved accepted equal. Used as a written order to the Contractor, signed by Owner and Architect. When appropriately signed, this form provides Work Authorization for Contractor to proceed with a change altering the work. These provisions are to be included in a subsequent change order.

B. Change Order (CO): Owner's standard form or approved accepted equal. Change order lists and describes change order proposals previously approved with Work Authorization signatures. Change order provides accounting for any contract sum and contract time adjustment.

1.2 PRELIMINARY INITIATION/CHANGES

A. Owner/Architect Changes: Changes may be initiated by Owner and Architect through a change order proposal submitted to Contractor. Such request is for information only, and is not an instruction to execute changes, nor to stop work in progress. Proposal will include:

1. Detailed description of changes, products, and location of modification in project.
2. Supplementary or revised drawings and specifications.
3. Projected time span for making change. Statement as to whether overtime work is, or is not authorized.

B. Contractor Changes: Initiate changes by submitting a letter to Architect requesting a COP be issued. Include in the letter the following:

1. Description of and reason for proposed changes.
2. A specific period of time during which requested price will be considered valid.
3. Effect on contract sum and contract time.
4. Documentation supporting any change in contract sum or contract time, as appropriate.
5. Statement of why proposed change is not covered in contract.
6. Include date work is to be completed.

C. Immediate Changes: In situations where time is of the essence or an emergency condition exists, Architect and Owner's Representative may directly order a change to the work by a written COP signed by Architect and Owner's Representative. Work Authorizations will only be issued on a "cost-not-to-exceed" basis.

1.3 CONSTRUCTION AUTHORIZATION

A. Recommendation of change order proposal is indicated by Architect's signature.

B. Owners' signatures providing work authorization are required for Contractor to proceed with the work described on the proposal and subsequent inclusion into a change order.

C. If either the Architect or Owner disapproves proposal, the reason for disapproval will be stated. A request for a revised proposal or cancellation of the proposal will be shown.

1.4 CHANGE ORDER PROCEDURES

A. Change orders will be prepared at such intervals as Owner deems practical or as reasonably requested by Contractor.

B. Change order will be prepared by the Owner and three original copies will be forwarded to the Contractor for signature.

C. After the Contractor's concurrence the three signed original copies will be provided to the Architect for its agreement and signature, and then all copies forwarded to the Owner's representative for final processing of signatures.

D. Upon signature and execution by the Owner, the change order becomes part of the contract documents, which then alters the contract time and cost as needed.

E. Contractor may only request payment for the work against an approved change order.

1.5 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Revise request for payment forms to record each change order as a separate item of work. Record adjusted contract sum.

B. Revise construction schedule to reflect changes in contract time.

C. Upon completion of work under change order, enter pertinent modifications in record documents.

1.6 DISTRIBUTION

A. Upon a change order proposal receiving a work authorization signature or an authorized change order the Owner will transmit one signed copy to Contractor and Architect.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 26 00

Date: **COP # 000**

ARCHITECT / OWNER REQUEST

To: (Contractor), please provide your proposal for executing the following change(s):
From: (Consultant), Owner Representative

Description:

Attachments:

Distribution: (On-site Reps), Owner;

CONTRACTOR'S PROPOSAL

To: (Consultant)
From: (Contractor)

Description:

Adjust contract amount (not including WA State Sales Tax)
_____ Lump Sum (increase)(decrease) of $_____
_____ Unit Price (attached proposal per Bid Form breakdown)
_____ Other: _____

Adjust Contract Time
Remains unchanged
_____ Increased by _____ days
_____ Decreased by _____ days

By: _____ _____
(Contractor's Representative) (Date)

ARCHITECT'S REVIEW

Acceptance is recommended by the Architect after examination of this proposal and finding that the cost and time adjustments are reasonable.

Consultant _____ _____
(By) (Date)

Rejection
Consultant; Owner _____ _____
(By) (Date)

ACCEPTANCE

The Owner accepts this proposal, pending review and approval of all detailed costs and the preparation of a formal change order. This acceptance (does) (does not) constitutes Work Authorization to proceed immediately with the modification.

Port of Skagit _____ _____
(By) (Date)

Distribution: (Contractor); (Consultant); (On-site Reps); (PM),

CO # _____

SCOPE OF CHANGE TO WORK

The contract for the project identified above is hereby amended as outlined in the space below or on attached referenced sheets. All other provisions of the contract remain in full force and effect.

TIME OF COMPLETION

The contract time is (increased) (decreased) (unchanged) by _____ calendar days.

The date of Substantial Completion as of the acceptance of this Change Order is _____

CONTRACT AMOUNT

Above changes adjust the Contract Amount as follows (excluding Washington State Sales Tax)

Original Contract Amount was $_____

Net change by previously authorized Change Orders $_____

Contract Amount prior to this Change Order was $_____

This Change Order will (increase) (decrease) (not change) the Contract Amount by $_____

New Contract Amount including this Change Order will be $_____

The Contractor is prepared to accomplish the described change(s) within the time and contract amount limits noted above.

(Contractor) _____ _____
(By) (Date)

The Architect has reviewed the above change(s) in scope, time, and contract amount and recommends they be accepted.

(Consultant) _____ _____
(By) (Date)

The Owner authorizes the changes described above.

Port of Skagit _____ _____
(By) (Date)

SECTION 01 29 73 — SCHEDULE OF VALUES

PART 1 – GENERAL

1.1 FORM AND CONTENT OF SUBMITTAL

A. Format: On 8-1/2" x 11" paper, the AIA Document G703 is an acceptable form, or an accepted submitted format.

B. Content: Include as a minimum the following:

1. Individual items of work, including general conditions, mobilization, close-out, punchlist, and demobilization.

2. For items on which progress payment will be requested for materials or equipment purchased/fabricated/delivered but not yet installed, show "initial value" for payment request and "value added" for subsequent stage(s) of completion on that unit of work.

3. For each line item of installed value exceeding 1/20 of contract amount, show breakdown by major product or operations under each item.

4. Round figures to nearest dollar amount.

5. Make sum of total scheduled costs equal to contract sum.

6. Major cost items which are not directly a cost of actual work-in-place, such as distinct temporary facilities, may be either shown as items in schedule of values or distributed as general overhead expense, at Contractor's option.

7. Breakdown major work efforts by floor or phases or systems as appropriate for ease of review and conformation of work completed.

8. Breakdown mechanical and electrical systems or phases with material and labor as separate items.

C. Coordinate items of the schedule of values so that there is a corresponding item in the construction schedule.

D. Coordinate items of the schedule of value with CSI 49 Divisions.

1.2 SUBMITTAL

A. Submit and receive approval prior to first application for payment.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 29 73

SECTION 01 29 76 – APPLICATION FOR PAYMENT

PART 1 GENERAL

1.1 PRIOR TO APPLICATION FOR PROGRESS PAYMENTS

A. Submit and receive approval for the construction progress schedule.

B. Submit approved Intent to Pay Prevailing Wages Forms. Processing of an application will not begin until an approved copy is on file with the Owner for each classification of laborers, workers, or mechanics employed by the Contractor or Subcontractor that is included in an application for payment. No exceptions.

C. Submit and receive approval of the Schedule of Values (AIA G703).

D. Submit a list of all Subcontractors and Suppliers.

E. Submit a Contractor's Retainage Option Request if Contractor determines that the mandatory retainage is to be invested in an escrow account with a qualified State depository.

F. Submit a completed Internal Revenue Service Form W-9, Payers Request for Taxpayer Identification Number.

G. Submit with each application for payment, a list of subcontractors and sub-subcontractors being billed for.

1.2 DRAFT APPLICATION FOR PAYMENT

A. Submit draft application for payment at a regular construction progress meeting for approval. The cutoff date shall be the end of the month or as otherwise agreed. Provide the following documents:

1. Application and Certificate for Payment on Contract. The AIA Document G702 is an acceptable form or an equivalent approved by Owner. Fill in required information and attach to invoice voucher.
   a. List Change Orders approved prior to submission date, individually last on the form. Use Owner's Change Order designation and description, similar to an original component item of work. Do not bill for Change Order Proposals until an APPROVED Change Order has been received incorporating the modification.

2. Stored Materials: Requests for payment on materials stored shall be for materials properly stored on the site. In addition to the requirements of the General Conditions materials stored off-site shall comply with conditions stipulated by the Owner to qualify for payment, these conditions may include, but are not limited to:

a. Copies of invoice from Supplier must be submitted.
b. Payment for stored materials is at the sole option of the Owner.
c. Contractor and its bonding company accepts total responsibility for the stored materials.
d. Materials must be insured per Municipal Risk Management requirements.

B. The following shall be reviewed prior to approval of the draft application for payment:

1. As-built drawings will be reviewed by Architect for completeness and accuracy.
2. Updated progress schedule.
3. Contractor Quality Control Reports

1.3 SUBMITTAL PROCEDURE

A. Contractor is cautioned to carefully check all extensions, totals, and required information for accuracy before formal submittal.

B. Submit 3 signed copies of application for payment.

C. Applications are to be signed by a responsible officer of Contract firm. Do not sign in black ink: No photocopies of signature permitted.

D. Application for payment shall include the following:

1. Application and Certificate for Payment (AIA G702) on Contract.
2. An Invoice Voucher form for retainage, if applicable. If retainage is invested, contractor must indicate payment to Contractor and Bank jointly with the Bank's address given.
3. General Contractor Affidavit Form, (do not submit with the first billing).
4. General Contractor Pay Application Subcontractor List.
5. Subcontractor Statement of Payment Affidavit Form, (do not submit with the first billing).
6. Invoices for materials stored off-site with agreed upon insurance requirements and/or contractor's statement for accepting all responsibility.

E. When Architect finds application properly completed and correct, it will sign and transmit all copies of application for payment to Owner for processing.

F. If Architect or Owner find application improperly or incorrectly executed, an annotated copy will be returned for NEW SUBMITTAL.

G. Only minor corrections are allowed on form with approval of Owner.

1.4 PRIOR TO APPLICATION FOR RELEASE OF RETAINAGE (100% Payment)

A. No application for release of retainage will be accepted for processing until satisfactory completion of the following:

1. Receipt of Contractor's Affidavit of Payment of Debts and Claims (AIA Document G706, or accepted equal). This includes the Affidavits of Wages Paid forms approved by the Department of Labor and Industries, for the General Contractor and all subcontractors (sub-subcontractors etc.)
2. Receipt of Contractor's Affidavit of Release of Liens (AIA Document G706A or accepted equal).
3. Receipt of the Consent of Surety to Final Payment (AIA document G707, or accepted equal).
4. Punchlist items complete and accepted.
5. Contract close-out document submittals received and accepted.
6. Required permits signed off.
7. Submittal of O&M Manuals.
8. Other requirements as specified in Section 01 77 00 - Contract Close-out.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 29 76

SECTION 01 31 15 – COMMUNICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 GENERAL COMMUNICATION

A. Telephone communication and correspondence shall be between Contractor's Representative and A/E.

B. Subcontractors are not to contact members of the design team directly unless explicitly agreed to by Contractor, A/E and PM. All such contact and discussions are to be documented in writing by the subcontractor and submitted to the A/E and PM through the Contractor.

C. The General Contractor shall transmit problems or questions in writing using a Request for Information (RFI).

D. On-Site Lines of Authority & Communications: Establish on-site lines of authority and communications including attendance at Pre-Construction Meeting and Progress Meetings as required by the A/E and Owner's Site Representative. All on-site lines of authority and communications shall be established through the A/E.

E. The A/E, and PM will not typically be working during the Contractor's normal working hours as defined in Section 01 10 00. The Contractor shall anticipate that all communication and weekly construction meetings with these parties will occur between the hours of 8:00 a.m. and 5:00 p.m. Monday through Friday throughout the duration of the Project.

F. The Contractor shall incorporate any cost effect this may have on the progress of the Project into his Base Bid. No overtime payments will be authorized, or time delays allowed, for the Contractor or subcontractors to communicate with the A/E and PM outside of the Contractor's normal working hours.

1.3 EMERGENCY COMMUNICATION

A. An Emergency list will be established.
   1. The Contractor shall provide a list of names, pagers, wireless and wired telephone numbers of staff who are capable of addressing an emergency issue that may occur outside of Contractor's normal working hours. The persons designated on the list shall be available at the project site within 30 minutes of being contacted; Parties will agree to an acceptable time frame if this timeframe is not possible.

Provide two names for each of the following:
a. General Contractor
b. Mechanical Subcontractor
c. Electrical Subcontractor
d. Fire Protection Subcontractor
e. Demolition Subcontractor

2. Submit the list to the A/E five (5) working days prior to the Preconstruction Meeting. The A/E will include the same information for design team members and Owner representatives and distribute the list at the Preconstruction Meeting.

1.4 CORRESPONDENCE

A. All correspondence to and from Contractor will be routed through A/E with a copy to PM.

B. Include project title and project number on all correspondence.

1.5 REQUEST FOR INFORMATION (RFI)

A. It is the Contractor's responsibility to review Contract Documents in a timely manner so that the A/E shall have sufficient time to respond to a Request for Information prior to the start of actual construction of that part of the Work.

B. When field conditions or Contract Document contents require clarification or verification by the A/E or A/E's sub-consultants, a written RFI acceptable to the Architect and Owner Representative is to be submitted as follows:
1. Identify the nature and location of each clarification/verification using a RFI form; provide as a minimum the following information:
a. Project name and number;
b. Date;
c. Date response desired.
d. RFI number;
e. Subject;
f. Initiator of the question;
g. Indication of costs, if known;
h. Location on site;
I. Contract drawing reference;
j. Contract specification section and paragraph reference;
k. Descriptive text;
l. Space for reply on same page as questions; and
m. Single subject matter, 1 item each - architectural, civil, structural, mechanical, electrical
2. Number each RFI sequentially beginning with number 001 (RFI-001). Only one question per RFI.

C. Uses
1. The RFI form shall be used for interpretation or clarification of the Contract Documents only.

2. Do not use the RFI form for the following; the A/E will not reply and the RFI will be returned without action:
   a. Product or material substitution.
   b. Questions relating to construction means, methods, techniques, sequences, procedures, or safety precautions. These are the Contractor's responsibilities exclusively.
   c. Questions relating to construction schedule, coordination between trades, or division of work among subcontractors. These are Contractor's responsibilities exclusively.
   d. Questions on contract administration procedural matters, unless they require interpretation or clarifications of the Contract Documents.
   e. Dimensions or quantities which are shown on the Contract Documents, which can be measured or calculated from the information contained in the Contract Documents where such measurement or calculation is standard construction industry practice.
   f. Confirmation of interpretations or clarifications previously provided by the A/E.
   g. The Contractor shall not initiate requests for interpretations or clarifications of the Contract Documents which can be reasonably derived from a review of the Contract Documents.
   h. If impacts to Project Schedule and Cost are left blank or not addressed.

D. Route: RFI's in same manner as correspondence

E. Clarifications may be discussed on-site or by telephone with A/E or A/E's Consultant with concurrence of the A/E. The essence of these discussions are to be incorporated into a RFI form and submitted for normal RFI processing.

F. Reply
   1. The A/E will endeavor to reply to all RFI's promptly as his work schedule allows and generally no later than 7 working days from the day received. The consultant will expedite those RFI's indicated by the contractor as being critical to the construction process.
   2. When an RFI involves a complex subject, extensive research or governmental agency contact, the A/E will inform the Contractor that additional time is required to prepare a reply. The Contractor shall cooperate and agree to reasonable additional time.
   3. The reply shall be a clarification or an interpretation of the Contract Documents; the reply is not an authorization of change in the Contract Sum or Time.

1.6 NON-COMPLIANCE NOTICE (NCN)

A. Any work that is identified as not in compliance with the Contract Documents, either by oral discussion with the contractor, or written communication to the contractor, shall be removed and replaced without cost to the Owner, including removal of additional material necessary to confirm non-compliance. At its option, the Owner may accept written alternative solutions by the contractor and recommended by the A/E. The Contractor shall notify the A/E and Owner in writing immediately following oral discussion or receipt of any written communication if the contractor believes they are in compliance with the Contract Documents. The A/E will make a determination based on the Contract Documents. If the A/E finds the work is in noncompliance the A/E will issue a written Non-Compliance Notice (NCN). Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. Upon receipt of the NCN, the Contractor shall take immediate action to correct work. Review corrections at progress meetings for closure.

B. If the Contractor fails or refuses to comply promptly after the final determination of the appropriate corrective action, the Owner may:
   1. issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Owner will not pay for non-complying work or follow on work until the noncomplying work is corrected or replaced. If it becomes necessary to stop work due to non-correction or non-complying work, no delay claim, time extension, or compensation will be granted, or
   2. the Owner may elect to correct the non-compliant work and back charge the Contractor by a deductive Change Order.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 31 15

Date _____ **RFI #** _____

From:

_____ _____
(Requestor) (Contractor), (Subcontractor)

Distribution:
(Contractor), (Subcontractors), other (Consultant), Owner

Date _____ Date _____

REQUEST

Subject: _____

Reference (Drawing / Spec. Section): _____

Requested Information / Solution to: _____

_____

_____

_____

_____

_____

Impact to project cost? ___ No ___ Yes. Approximate cost impact: _____

Impact to project schedule? ___ No ___ Yes, if response not received by _____

RESPONSE

Information / solution _____

_____

_____

_____

_____

_____

Respondent(s):

Firm _____ Consultant _____ Owner _____

(Name) (Name) (Name)

Date _____ Date _____ Date _____

Distribution:
Consultant, other Owner, other Contractor, other

SECTION 01 31 19 – PROJECT MEETINGS

PART 1 – GENERAL

1.1 PRECONSTRUCTION MEETING

A. Meeting Location: Owner will schedule prior to the start of construction at the site or as agreed. This meeting is to review contract administration requirements. Attendance is required of the following:
   1. Contractor's Superintendent and Project Manager.
   2. Major Subcontractors.
   3. Architect (Subconsultants as needed).
   4. Owner / Project Manager.
   5. Others, as appropriate.

B. Architect will preside, conduct meeting and record, reproduce, and distribute copies of minutes within seven days of meeting to all meeting participants.

1.2 PROGRESS MEETINGS

A. Scheduled weekly meetings will be arranged. At certain times meetings may be less frequent as required and agreed.

B. Meeting Locations: Contractor's project field office, unless otherwise agreed.

C. Attendance: Representatives attending meetings are required to be qualified and authorized to act on behalf of their firms. Attendance will include:
   1. Contractor's Superintendent and Project Manager.
   2. Subcontractors and Suppliers, as appropriate to agenda.
   3. Architect (Subconsultants as needed).
   4. Owner Representative/Project Manger.
   5. Others, as appropriate.

D. Architect will preside, conduct meeting and record, reproduce, and distribute copies of minutes within seven days of meeting to all meeting participants.

E. Contractors' major subcontractors whose work on the project is current or soon to occur shall attend meetings and be qualified and authorized to act on behalf of the entity each represents.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 31 19

SECTION 01 32 16 – PROJECT SCHEDULE

PART 1 – GENERAL

1.1 WORK INCLUDED

A. General: This Section specifies administrative and procedural requirements for the Critical Path Method ("CPM Schedule") of Construction Scheduling and reporting progress of work.

B. Within (14) fourteen days after notice to proceed prepare and submit a preliminary project schedule for the project.

C. Refer to the General Conditions and Section 01 10 00 Summary of Work, for definitions and specific dates of Contract Time.

D. Refer to Section 01 29 73 Schedule of Values

E. Requests for Progress Payments will not be reviewed until after Network Analysis Schedule (CPM Schedule) has been reviewed and accepted.

F. The Submittal Schedule is specified in Section 01 33 00 Submittal Procedures.

1.2 DEFINITIONS:

A. Critical path method (CPM) is a construction scheduling technique using network analysis diagrams to plan and organize construction activities in an orderly manner recognizing all interrelationships and dependencies of all interrelated activities that comprise the project.

B. Network: A network diagram is a graphic representation showing the relationship of activities and events in the correct sequences required to complete the Project within the Contract Time.

C. Activity: An activity is any single identifiable step in the Project.
   1. Critical activities are activities with no (zero) float time and are therefore operations that determine the critical path and control Project completion.

D. Interval Schedule: A 4 week window from the project schedule showing activities of the previous week and forecasting activities of the next three weeks.

E. Float time is the amount of time available for a given activity in excess of its estimated duration.
   1. Free float is the amount of time an activity can be delayed without adversely affecting the early start of any subsequent activity.
   2. Total float is the amount of time an activity can be delayed without affecting overall time for Project completion.
   3. Prepare schedule on attached form at end of section.

1.03 QUALITY ASSURANCE

A. Consultant: The Contractor may retain a Consultant to provide CPM scheduling services, including planning, evaluating and reporting.
   1. The Consultant shall be recognized specialist, acceptable to the Owner and the Architect, who is expert in the critical path methods (CPM) of scheduling and reporting.
   2. The Consultant shall have computer facilities available that are capable of delivering detailed network diagrams within 48 hours of request.
   3. In-House Option: The requirement to retain a Consultant may be waived if the Contractor can demonstrate to the Owner and the Architect's satisfaction that:
      a) It has the computer equipment required to produce CPM network diagrams (project schedule).
      b) It employs skilled personnel who are experienced in CPM scheduling and reporting techniques. Contractor must submit a resume and samples of the scheduler's work product demonstrating experience in creating and applying a cost-loaded CPM schedule for planning the work and for generating the monthly pay requests, and a demonstrated understanding in the use of CPM to identify, communicate, and mitigate potential time-related damages.
   4. Program: Use a computer software program for network analysis that has been developed specifically to manage CPM construction schedules and is acceptable to the Owner and the Architect.

1.04 CPM SCHEDULE

A. CPM Schedule preparation: Include every activity having a bearing on the time required to complete the Work. Provide the best data available for generation of the network diagram and CPM schedule.
   1. Indicate the estimated time duration, sequence requirements and relationship of each activity in relation to other activities.
   2. Indicate estimated times for the following activities to be performed:
      a) Preparation and processing of submittals;
      b) Purchase of materials;
      c) Delivery;
      d) Fabrication;
      e) Installation.
   3. Cost loading: The project contract amount is to be loaded into the CPM schedule such that:
      a) The total costs of all costs loaded into the schedule matches the contract total;
      b) Costs are allocated to the subcontractor such that each subcontractor's total cost loading totals to that subcontractor's subcontract amount;
      c) All activities have a cost code and/or responsibility code that allows the generation of detailed bar charts and other reports by selected individual subcontractors;
      d) The cost-loaded schedule will generate roll-up and summary cost reports based on the activity coding (responsibility, phase,

physical location, other) and provide monthly cash flow predictions and;

e) Subcontractors monthly pay requests are submitted using the activity ID's and budget amounts approved in the cost-loaded CPM schedule.

f) Modifications to the budgets (moving money from one activity to another) are not to be done without the specific written approval of the Owner and/or Architect.

4. Include Submittal Activities in the Schedule: Code all preconstruction work separate from construction work such that separate reports can be produced.

a) Generate a Material Control report by material type or specification section that shows the Submit/Review/Fabrication/Delivery of each scheduled Material Control item;

b) Cost load Material Control items where costs will be submitted for engineering or submittal preparation, for materials fabricated and approved but not installed (bonded storage or delivered to site). Where a submittal is submitted and the cost for that submittal is included in the pay request, 50% of the submittal will be approved if upon complete submission of that item, and the remaining 50% approved following the Architect's approval of that item.

c) Include at a minimum one material control sequence per subcontractor, and a sequence for all items that traditionally required time control diligence, that will have a pay request component prior to installation, or that may have a time risk due to the nature of this specific project. Add material control activities as necessary to communicate the relative time risk and to assure material control items that may become risks are in the CPM schedule.

d) The contractor is not required to include ALL submittals in the CPM schedule. The Owner recognizes there is a submittal control log that identifies and tracks all submittals and is asking only for relevant submittals to also be incorporated into the CPM schedule.

5. The schedule shall be prepared in Precedence Diagramming format (PDM) as opposed to I-J/Activity on Arrow (ADM) format.

6. Schedule shall include activities for start-up and testing of all equipment and systems; activities for punch list of each major area, and an overall punch list; and milestones for Substantial Completion and Final Completion.

B. Processing: Enter prepared data on the processing system. Process data to produce output data or a computer-drawn time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the best possible CPM construction schedule.

C. Submittal and Distribution: Submit the initial issue of the tabulations and network for acceptance. When authorized, distribute copies to the Architect (3 copies), Owner (hardcopy and CD in format and software acceptable to Owner), separate Contractors, principal subcontractors and suppliers or

fabricators, and others identified by the Contractor with a need-to-know schedule responsibility.

1. Post copies in the project meeting rooms, Contractor's temporary field office, and Architect/Owner temporary field office.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in performance of construction activities.
3. Submit copies of each computer-produced report (listing) in duplicate to Architect.

1.05 SCHEDULE UPDATES

A. Update the schedule monthly and submit with Application for Progress Payment or more frequently where revisions have been recognized or made or upon request by the Owner. Issue the updated schedule concurrently with the report of Project meeting.

1. Update all activities in progress based on Actual Start and Remaining Duration or, if completed, Actual Start and Actual Finish.
2. Update the cost Amount this Period for all work put in place this period. Cost percent complete and progress percent complete need not match.
3. Prepare a narrative describing the changes to the schedule since the last update, addressing specifically any changes to the project end date and modification to the project critical path, activities that have lost 15 or more days total float in the past month, and activities having total float values less than 20 working days (near-critical activities).

B. Monthly Schedule meetings shall be on or as close to the schedule data date as possible. Progress is to be estimated to allow the schedule to reflect the anticipated status at the end of the monthly period, allowing the meeting to address the schedule in real time. The schedule shall represent the contractor's progress to date and plan for the remaining work. The pay request will not be addressed if the schedule does not satisfactorily represent the status of the project and the current plan, and the contractor will be asked to revise and resubmit immediately.

C. Submit potential time impacts immediately, using the Contemporaneous Period Analysis (CPA) methodology as defined by the American Association of Cost Estimators International (AACEI). In summary, this CPA methodology requires that the contractor make a copy of the most recent update, input the potential impact (as a fragment or short sequence of added activities) into the copy of the schedule, recalculate the impacted schedule, and present the difference between schedules (the impact) to the Owner and Architect as soon after the contractor becomes aware of the impact as possible, but in no more than 5 working days.

1.06 INTERVAL SCHEDULE

A. Update and present weekly a 4-week interval schedule.
   1. Show 1 week of actual progress (planned vs. actual performance). Forecast 3 weeks of start and completion dates for each activity, task or event in comparison to the prepared schedule.

B. Generate the interval schedule from the Project Schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 32 16

Interval Schedule

Week No:_________________

Port of Skagit - SWIFT Center Buildings 22 and 25 Reroof Project

Contractor:

Period From _______to_______

Legend:

Planned

Project:

Sheet___________of________

Actual to Date

Forecast to Complete

Project No.

Prepared By:_______________

Item No.	Month Activity Description	Early Start	Actual Start	Schedule History							Schedule Work Period																					Est Compl	Actual Compl	% Compl	Remarks
											First Week							Second Week							Third Week										
				M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S				

SECTION 01 33 00 – SUBMITTALS

PART 1 – GENERAL

1.01 SUMMARY

A. This section generally includes administrative and procedural requirements for submittals required for performance of the work, including:

1. Shop Drawings.
2. Product Data.
3. Samples.
4. Written Safety Programs.
5. Manufacturer's Safety Data Sheets (M.S.D.S.).

1.02 SUBMITTAL PROCEDURES

A. Coordination: Coordinate transmittal of submittals for related elements of work to ensure there will be no delay in processing due to the need to review submittals concurrently for coordination.

1. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

2. For product substitution see Section 01 61 00 Common Product Requirements and associated Substitution Request Form.

3. Allow two (2) weeks turnaround for each submittal, from time of receipt at the Architect's office. Complex submittals or several submittals within a short time frame will require a longer turn-around time. Provide a "priority list" when submitting several submittals to the Architect in a short time frame. Submittal sequencing should coincide with the submittal schedule, see Section 01 32 16: Construction Schedule. Allow additional time to permit coordination with subsequent submittals. If there is a delay in the submittal process due to coordination, the Architect will advise the Contractor.

B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Name the entity that prepared each submittal on the label or title block.

1. Include the following information on the label for processing and recording action taken:
   a. Project name and date.
   b. Name and address of Architect.
   c. Name and address of Contractor and Subcontractor.
   d. Name and address of supplier and name of manufacturer.
   e. Number and title of appropriate specification section.
   f. Drawing number and detail references, as appropriate.

2. Provide a space approximately 4" x 5" to record the Architect's review and approval markings and the action taken.

C. Submittal Transmittal: Package each submittal appropriately in manageable quantities and transmit from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action. Note: Electronic Submittals of data is preferred in lieu of hardcopies. See item #6 below.

1. Address no more than one topic or related topics on a single transmittal (i.e. mechanical items will not be submitted under same transmittal with electrical items or group miscellaneous specialties; shoring not with foundation).
2. Record relevant information, deviations, and request for data, including minor variations and limitations from the Contract Documents.
3. Shop drawings, product data, samples and mock-up as required for submission by the technical specification sections are to be submitted to the Architect and the Owner's Representative at the same time for the Architect's action. Provide the following amounts with content as follows (if submitting hard copies):

* Shop drawings:	Architect:	(3) copies (1 will be returned)
	Owner:	(1) copy
* Product data:	Architect:	(3) copies (1 will be returned)
	Owner:	(1) copy
* Samples:	Architect:	(3) samples (2 will be returned)
	Owner:	(1) sample
* Safety Programs	Architect:	(2) copies
	Owner:	(1) copy
* M.S.D.S sheets	Architect:	(2) copies
	Owner:	(1) copy
- Mock-ups:	As required by any technical specification section.	
- Demonstrations:	As required to facilitate installation and inspection.	

Note: Reference applicable mechanical and electrical technical specifications sections for additional submittal requirements.

* Where required, submit 2 additional prints/copies for maintenance manuals.

4. Material and Color Submittal: Submit samples of actual colors of materials.

5. In the event of the need to "revise and resubmit" a submittal, resubmit same in acceptable form/content, clearly identifying deviations from previous submittal content.

6. Digital Copies of Submittals: Digital Copies of Submittals may be provided in lieu of hard copy provided they meet the following requirements.

    a. Each submittal must have all elements compiled in a single, bookmarked pdf.
    b. The compiled submittal shall have a cover sheet with the information noted in Article 1.6B.
    c. The cover sheet shall list the all remaining documents compiled in the pdf.
    d. The remaining documents shall be ordered as shown on the cover sheet.
    e. Contractor review comments shall be in a form that is readable by Adobe Reader.
    f. A file exchange site may be used to transmit large files.

1.03 SHOP DRAWINGS

A. General: Submit drawings drawn to accurate scale. Do not reproduce Contract Documents or copy standard information for use as shop drawings. Standard information prepared without specific references to the project is not a shop drawing.

B. Drawings Include: Fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings. Include the following information:
    1. Dimensions.
    2. Identification of products and materials included.
    3. Compliance with specified standards.
    4. Notation of coordination requirements.
    5. Notation of dimensions established by field measurements.
    6. Date when review has to be finalized to meet schedule.

C. Sheet Size: Except for templates, patterns and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2" x 11", but no larger than 24" x 36".

D. Coordination of Shop Drawings
    1. Contractor and Subcontractors shall prepare and submit coordinated shop drawings. Prepare shop drawings at a scale not less than 1/4" = 1'-0". Clearly show how the work is to be installed or constructed in relation to the work of other Subcontractors.
    2. Contractor shall layout, on its reproducible, the reflected ceiling plan, beam soffit elevation, ceiling heights, roof openings, and other items it shall install.
    3. H.V.A.C. Subcontractor shall prepare a drawing indicating location, size, and elevation of new grilles, registers, equipment, ductwork, earthquake bracing locations and access doors.
    4. Plumbing Subcontractor shall prepare a drawing indicating location and elevation of piping, valves, cleanouts, access doors, hangers, earthquake bracing locations and fixtures.
    5. Sprinkler Subcontractor shall prepare a drawing showing the layout of the complete sprinkler system including hangers, earthquake

bracing locations, pipe runs including branch lines and riser diagrams. Indicate on a separate ceiling plan the location of sprinkler heads.

6. Electrical Subcontractor shall prepare a drawing showing the layout of fixtures, large conduit runs, clearances, pull boxes, junction boxes, sound system speakers, cable tray, electrical equipment, earthquake bracing locations and panels.
7. Contractor will call meetings with the Subcontractors to resolve any apparent conflicts on the shop drawings.
8. Upon resolution of the conflicts, and the shop drawings have been coordinated to the satisfaction of Subcontractors and Contractor, each Subcontractor and Contractor will sign and date a certification indicating that: All related conditions have been checked with all trades; no apparent conflict exists; the requirements of the contract documents have been complied with; and all elements of a complete installation are included.
9. Maintain and submit a set of record documents of the coordinated shop drawings, see Section 01 77 00 Contract Closeout for requirements. Correct shop drawings to reflect the changed conditions and submit a photographic mylar of the corrected shop drawings.

1.04 PRODUCT DATA

A. General: Product data includes; manufacturer's printed installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves.
   1. Where product data must be specially prepared because standard printed data is not suitable, submit as shop drawings.

B. Requirements: Mark each copy to show applicable choices and options, and indicate the applicable information on selected products. Include the following information:
   1. Manufacturer's printed recommendations.
   2. Compliance with recognized trade association standards.
   3. Compliance with recognized testing agency standards.
   4. Application of testing agency labels and seals.
   5. Notation of dimensions verified by field measurement.
   6. Notation of coordination requirements.
   7. Date when review has to be finalized to meet schedule.

1.05 WRITTEN SAFETY PROGRAMS

A. Prior to notice to proceed, the Contractor must submit a project specific written safety plan for review and approval to the Architect/Engineer and Owner. No construction work shall be allowed to begin on this project until the project specific Safety Plan is reviewed, and fully approved and signed off on by the Architect/Engineer and Owner. No exceptions to this shall be granted.

B. Submit the following written safety programs, if required for the project, for review:

1. Fall Protection Plan.
2. Respiratory Protection Program.
3. Hazardous Materials Programs.
   Chemical Waste Disposal
   Hazardous Communication Program (Right-to-know)
4. Accident Prevention Program.
5. Assured Electrical Grounding Program.
6. Hearing Protection Program.

1.06 M.S.D.S. SHEETS

A. Submit M.S.D.S. (Manufacturer's Safety Data Sheets) for all chemicals or hazardous materials. All chemicals and hazardous materials to meet NIOSH Permissible Exposure Levels (P.E.L.) and OSHA Time Weighted Average (T.W.A.) requirements.

B. All M.S.D.S. Sheets to be submitted bound in three ring binders and tabulated by specification section.

C. A copy of all M.S.D.S. sheets is to be kept on job site as part of the Right-to-Know program.

1.07 SAMPLES

A. General: Submit samples that are identical with the material or product proposed. Samples include partial sections of components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
   1. Package samples to facilitate review. Prepare samples to match the Architect's sample. Include the following:
      a. Generic description of the sample.
      b. Sample source.
      c. Product name or name of manufacturer.
      d. Compliance with recognized standards.
      e. Availability and delivery time.
      f. Specification section.

B. Requirements: Submit samples for review of kind, color, pattern, and texture, for a comparison of these characteristics before the actual component installation and after final submittal.
   1. Where variation in color, pattern, texture or other characteristics are inherent in the material, submit not less than four (4) units to show approximate limits of the variations.

C. Submittals: Where samples are for selection of appearance characteristics from a range of standard choices, submit a full set of choices for the material or products.
   1. Intent: Product color selection must occur in the context of adjacent product colors for a complete and unified color palette. Contractor must only submit colors that are currently available and are applicable to the project.
   2. Color sample Package Definition: Provide a Color Sample Package for interiors and a Color Sample Package for exteriors. Color

Sample Packages shall contain all relevant samples for a complete and final color palette. Each color sample shall be assigned its own submittal number. Color samples that occur under the same Section should share the same submittal number.

3. Schedule: Provide Color Sample Packages with adequate time for at least two rounds of color selections. Allow for an average of two weeks for each color selection round from when a complete Color Sample Package is received.
4. Larger Samples: A limited number of larger samples may be requested as part of the second round of color selections in order to arrive at the final color selections. Allow for time in the schedule to obtain the larger color samples.

D. Maintain sets of samples, as returned, at the project site, for quality comparisons throughout the course of construction.

1.08 ARCHITECT'S ACTION

A. Review: Except for submittals for record, information or similar purposes, the Architect will review each submittal, mark to indicate action taken, and return promptly.

B. Compliance with specified characteristics is the Contractor's responsibility. Approval of submittals does not release the Contractor from a proper installation, compliance with applicable codes or coordination of the work.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 33 00

SECTION 01 35 20 – SAFETY PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 PRELIMINARY WORK

A. Prior to the start of and during the course of above and below ground Work the Contractor shall make a thorough survey of the entire worksite to determine all potential hazards and notify the Owner in writing of any such hazards prior to the commencement of work. Workmen shall be made aware of those hazards and shall be instructed in procedures and the use of equipment for their protection. The Contractor shall verify the location, condition, and whether it is active or inactive of all utilities on and near the worksite and take precautions to protect all people working on the project, the general public, and the property.

B. Submit a site-specific safety plan to Owner and Architect for review. Submit to allow review and re-submittal with modifications prior to beginning any work.

1.3 IMMINENT DANGER

A. The Contractor shall be wholly responsible for all accidents or death occurring at any time during the progress or completion of this project which may happen to any person employed to perform work on this project; or for any injury or death its work, operations, or persons performing work on this project may cause to any person not employed in the work of this project; or for any damage its work, operations, or persons performing work on this project may cause to the work being constructed, or to any existing public or private property, either on or adjoining the project site or along any routes of travel. Completion of this project includes any time work is being performed on this project, even after final acceptance by the Owner.

1.4 SAFETY

A. The Contractor shall ensure that all persons, while on the work site, comply with the requirements of WISHA, these requirements, and the safety precautions contained in the several Specification Sections. The Contractor shall promptly and fully comply with, execute and, without separate charge thereof to the Owner, shall enforce compliance with the provisions of the latest adopted Washington Industrial Safety and Health Act, with particular attention paid but not limited to Chapter 296-155, WAC Safety Standards for Construction Work; with particular attention paid but not limited to Chapter 296-24 WAC General Safety and Health

Standards; with particular attention paid but not limited to Chapters 296-27, 196-350 and 296-360 WAC regarding Administrative Safety and Health Act Chapter 49-17 RCW, and any addenda thereto.

B. The Contractor shall immediately advise the Owner of inspections conducted by WISHA at the work site, and shall transmit copies of reports, citations and violations to the Owner and A/E.

1.5 SAFETY RESPONSIBILITIES

A. Contractor shall be responsible to:
1. Ensure compliance with these requirements, WISHA requirements, and other safety requirements.
2. Authorize immediate action to correct substandard safety conditions.
3. Review and act to ensure compliance with safety procedures with its supervisors, subcontractors, and suppliers.
4. Make thorough daily safety inspections of the work site and immediately act to eliminate unsafe acts and unsafe conditions.
5. Investigate worksite accidents and recommend immediate corrective action.
6. Assist in the preparation of accident investigation and reporting procedures.
7. Be responsible for the control, availability, and use of safety equipment, including employee personal protective equipment.
8. Submit two (2) copies of site specific safety plan to Owner.

1.6 REQUEST FOR VARIANCES

A. Requests for variances to deviate from WISHA requirements must follow the current established procedures by that Agency.

1.7 FAILURE TO COMPLY

A. If work on the project is stopped due to the Contractor’s failure to comply with the requirements of WISHA or other applicable safety requirements, no part of the time loss due to any such suspension of operations or stop orders shall be made the subject of a claim for extension of time or for increased cost or damage by the Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 35 20

SECTION 01 42 00 – REFERENCED STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

B. See other sections of the specifications for additional definitions.

1.2 DEFINITIONS

A. General: Basic contract definitions are included in the General Conditions for this Contract. The following supplements Part 1 of those Conditions and expands on definitions and intent of language generally used in the Contract Documents.

B. "Accepted": Means accepted by the A/E when used in conjunction with the A/E's duties and responsibilities as stated in the Conditions of the Contract.

C. "Approved": Where used in conjunction with A/E's response to submittals, requests, applications, inquires, reports, and claims by Contractor, the meaning of the term "approved" will be held to limitations of A/E's responsibilities and duties as specified in General and Supplementary Conditions. Where the terms "or approved" or "as approved" or "for approval" are used, the A/E is the sole judge of the quality and suitability of the proposed substitutions. In no case will "approval" by A/E be interpreted as a release of Contractor from responsibilities to fulfill requirements of the Contract Documents. Whenever a material, article or piece of equipment is identified on the Drawings or in the Project Manual by reference to manufacturer's or vendor's names, trade names, catalog numbers, or the like, and followed by the wording "or approved", "or approved substitute" or "equivalent, as approved", it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the A/E, of equivalent substance, quality, appearance or function and has been approved by the A/E in writing prior to bid opening in conformance with the provision of Section 01 61 00, Common Product Requirements, Article 2.3. It shall not be purchased or installed by the Contractor without A/E's and Owner's prior written approval.

D. "A/E", "Consultant": Means the design firm identified in the Contract Documents.

E. "As required": Means as required to suitably complete the work and at the direction of the A/E.

F. "Authority Having Jurisdiction" (AHJ): Means any person which has responsibility related to issuing final occupancy and permits for this Project.

G "Concealed": Means spaces out of sight. Such as above ceilings, below floors, between double walls, furred-in areas, pipe and duct shafts, and similar spaces.

H. "Conditions" or "General Conditions": Means General Conditions for Washington State Facility Construction.

I. “Coordinate”: Means the Contractor is to coordinate scheduling, submittals, and work of various sections of the specifications, drawings and construction of all trades to assure efficient and orderly sequence of interdependent construction elements for a complete and operating installation.

J. “Demolish”: Means to tear down and remove completely, including any anchors, unless noted otherwise, without damaging adjacent surfaces that all to remain.

K. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the A/E, requested by the A/E, and similar phrases. However, no such implied meaning will be interpreted to extend A/E’s responsibility into Contractor’s area of construction supervision.

L. “Engineer”: Where the term engineer is used, it means either:
1. Consultant in its respective discipline to the A/E or Owner as listed in the Project Manual.
2. Consultant to the Contractor, retained by contractor to perform services required by construction activities.

M. “Experienced”: When used with respect to any trade performing services for the project, means having a minimum of 5 successfully completed previous projects similar in size and scope to this project, being familiar with the special requirements indicated, and aware of and compliance with AHJ requirements.

N. “Exposed”: Means open to view and not covered or concealed.

O. “First Class Workmanship”: Means to
1. Verify before installing any material that the receiving surface is plumb, level, true to line, and straight to achieve tolerances identified. Surfaces not meeting this criteria are to be identified to the contractor and corrected before proceeding.
2. New work is to be tight, straight, even, and smooth with respect to the new work and interfacing with adjoining surfaces.

P. "Furnish": Means to supply and deliver to the Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.

Q. “General” or “General Requirements”: The provisions or requirements of Division 1 Sections. General Requirements apply to entire work of Contract and where so indicated, to other elements of work which are included in the Project.

R. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or Schedules in the Project Manual (Specifications and Detail Book), and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. Location is not limited, and is applicable where reasonably implied and necessary in conformance with work specified, drawn, or required for completion.

S. “Inspection”: As used in reference to actions of the A/E or his/her consultants, shall mean to review or observe the Work, but not to “inspect” the Work as the Contractor or Authority Having Jurisdiction will inspect.

T. "Install": Means operations at the Project Site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing,

protecting, cleaning, and similar operations to permanently affix to project, as applicable in each case.

U. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

V. "Install in Accordance with Manufacturer's Instructions and Directions": Throughout the Documents, although it may not be specifically stated, the Contractor is to install all work in accordance with Manufacturer's literature, unless otherwise noted or directed, for the best results. Where more than one Manufacturer is involved in the work, or its component parts, the Contractor shall follow each Manufacturer's literature.
   1. In the event of conflict between the Manufacturer's Literature, or its literature and the Contract Documents, the Contractor shall submit the discrepancy or conflict to the A/E for resolution and written instruction prior to proceeding with any work.
   2. No Manufacturer preparatory steps or installation procedures may be omitted. If the Contract Documents generalize the installation procedure, but do not necessarily mention all procedures, those procedures are not exempt from being completed by the Contractor unless they are specifically modified or stated as being exempt.

W. "Owner": Means the "The Port of Skagit":
   1. E&AS will be represented by a Project Manager (PM) who has been involved with the design and is responsible for managing the A/E Agreement and Construction Contract.
   2. E&AS may assign a project specific Site Representative to be present on-site during construction. This "Site Rep" will observe and report daily activities to the Owner and provide assistance to assure Owner impacts, project access, construction quality and construction related responses are addressed. As an agent of the Owner, the Site Rep may expedite Owner decisions.
      a. The Site Representative will make daily visits to the site to review the progress of the work and its conformance with the Contract Documents. The Site Representative will bring relevant issues to the attention of the Contractor's QA Representative, A./E, and PM.
      b. The Site Representative will participate in the pre-construction meeting, quality control meetings, progress meetings, pre-installation meetings, and closeout/punch list meetings in addition to walk-throughs.

X. "Patch": Means to cut out to nearest joint and replace with like kind material.

Y. "Product": Means materials, systems and equipment provided by the Contractor for use in the Work.

Z. "Project Manual": Means the volume(s) included as part of the Project Documents.

AA. "Project Site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.

AB. "Provide": Means to furnish, coordinate, and install, complete, in place and ready for the intended use.

AC. “Regulations”: Means laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

AD. “Remove”: Means to detach items from the existing construction and legally dispose of offsite unless indicated to be “removed and salvaged” or “removed and reinstalled”.

AE. “Repair”: Means to perform minor corrections and patching of all indicated materials.

AF. “Replace”: Means to provide new material to match adjacent materials, unless noted otherwise.

AG. “As Required”: Means to complete the work in a first class workmanship manner.

AH. “Remove and Salvage”: Means to remove, clean, and pack or crate item to protect against damage, identify contents of packed item, and deliver to Owner’s designated storage area.

AI. “Remove and Reinstall”: Means to remove, clean, service, and otherwise prepare the item to be reused; restore if the item is historic; store and protect against damage and reinstall in the same location or as otherwise indicated.

AJ. “Satisfactory”: Means “satisfactory to the A/E and Owner’; the A/E shall be the sole judge of the acceptability of a product or an installation.

AK. “Selected”: Means “selected by the A/E and Owner” and is not necessarily limited to a manufacturer’s standard line of colors, finishes or details.

AL. “Similar”, “Similar to”: Where the words “similar” or “similar to” are used:
1. Where it occurs in the Contract Documents, shall mean that a portion of the Work shall have common features and be visually consistent with, but may not necessarily be identify to, related portions of the Work. Contractor shall correlate similar conditions of the Work. The Contractor shall identify any uncertainties to the A/E. Do not proceed without A/E’s direction.
2. Where it is followed by a manufacturer’s name and product, model, or type number, such manufacturer, product, model or type number shall be considered as the standard of quality for the item or product work specified, in a general and technical sense, not meaning “identical”, and the provisions pertaining to “or approved” shall apply to any other proposed material, article, or piece of equipment of other manufacturers or vendors.

AM. "Testing Agencies": Means an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

AN. “Trades”: Means any person or group of people which provides services to or work on the Project. Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

AO. “Verify”: Means the Contractor is to verify existing conditions and coordinate any variations from what is shown in the Contract Documents with the A/E.

1.03 SPECIFICATION AND DRAWING FORMAT AND CONTENT EXPLANATION

A. The General Conditions, Supplemental Conditions, and Division 1 of these specifications shall be a part of technical Divisions and Sections the same as if they were specifically called for in each section.

B. Wording of these Specifications: These Specifications are of the abbreviated or streamlined type and may include incomplete sentences. Words such as "shall," "the Contractor shall," "shall be," and similar mandatory phrases, are included by inference.

C. Tense, Gender, Singular, Plural: Present tense words include future tense. Words in masculine gender include feminine and neuter genders. Words in the singular include plural. Plural words include singular.

D. All, Entire, and the Like: For brevity throughout the documents, these words may be omitted. Read their implications into all work, as the following parenthetical insertion exemplifies: "Balance and adjust (all) dampers."

E. Specification by Reference: Any material specified by reference or number, symbol or title of a specified standard, such as commercial standard, ANSI and ASTM documents, Federal Specifications, trade association standard, or the like, shall comply with the following:
   1. The latest revision requirements thereof;
   2. Any amendment or supplement thereto in effect on date of the Project Manual, except as modified;
   3. When building code requirements refer to a different issue of standards specifications, such issue governs.

F. Drawings are in part diagrammatic and do not necessarily show complete details of construction, work or materials, performance or installation. They do not necessarily show how construction details, other items or work, fixtures, and equipment may affect any particular installation. The Contractor is required to ascertain and correlate the work to bring the parts together into a satisfactory and completed whole.
   1. Where on any of the drawings a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to all other portions of the work.
   2. Wherever a detail is referenced and developed for a specific condition, same or similar detail shall apply to identical or similar conditions elsewhere on project even though not specifically referenced.

1.04 INDUSTRY STANDARDS

A. Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Comply with the standards in effect as of the date of the Contract Documents.

C. Where compliance with 2 or more standards is specified and the standards established differ or have conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer to the A/E before proceeding.

1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum acceptable. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the A/E for a decision before proceeding.

D. Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Contractor shall obtain copies directly from the publication source and have them available at the job site all reference standards which are referenced in the technical specifications of the Project Manual or on the Drawings.

E. Graphic Standards: Symbols used in the Contract Documents, except as otherwise noted, are those symbols recognized in the construction industry for purposes indicated.

F. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in the Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents. The following list may not be complete or may have additional listings not used in the Contract Documents. Refer to Gales Research Company “Encyclopedia of Associations”, available in most libraries, for any missing names.

AA	Aluminum Association 900 19th St., NW, Suite 300 Washington, DC 20006
AABC	Associated Air Balance Council 1518 K St., NW Washington, DC 20005
AAMA	American A/Eural Manuf's Assoc. 1540 E. Dundee Road, Suite 310 Palatine, IL 60067
ADC	Air Diffusion Council One Illinois Center, Suite 200 111 East Wacker Drive Chicago, IL 60601-4298
AAN	American Association of Nurserymen 1250 Eye St., NW, Suite 500 Washington, DC 20005
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol St., Suite 249 Washington, DC 20001
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 Research Triangle Park, NC 27709
ABMA	American Bearing Manufacturers. Assoc 1101 Connecticut Ave., NW, Suite 700 Washington, DC 20036
ACI	American Concrete Institute P.O. Box 19150 Detroit, MI 48219
HEI	Heat Exchange Institute c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851
HI	Hydronics Institute P.O. Box 218 35 Russo Place Berkeley Heights, NJ 07922
HI	Hydraulic Institute 9 Sylvan Way Parsippany, NJ 07054-3802
IBD	Institute of Business Designers 341 Merchandise Mart Chicago, IL 60654
ICEA	Insulated Cable Engineers Assoc, Inc. P.O. Box 440 South Yarmouth, MA 02664
IEC	International Electrotechnical Comm. (Available from ANSI) 1430 Broadway New York, NY 10018
IEEE	Institute of Elect & Electronic Eng 345 E. 47th St. New York, NY 10017
IESNA	Illuminating Engineering Society of North America 345 E. 47th St. New York, NY 10017
IGCC	Insulating Glass Certification Council C/o ETL Testing Laboratories, Inc. P.O. Box 2040 Route 11, Industrial Park Cortland, NY 13045

ACIL	American Council of Independent Laboratories 1629 K St., NW Washington, DC 20006
ACPA	American Concrete Pipe Assoc. 8300 Boone Blvd., Suite 400 Vienna, VA 22182
ADC	Air Diffusion Council One Illinois Center, Suite 200 111 East Wacker Dr Chicago, IL 60601-4298
AFBMA	Anti-Friction Bearing Manufacturers Assoc. (Now ABMA)
AFPA	American Forest and Paper Assoc. (American Wood Council of the) 2nd Floor, 1250 Connecticut Ave., NW Washington, DC 20036
AGA	American Gas Assoc. 1515 Wilson Blvd Arlington, VA 22209
AHA	American Hardboard Assoc. 1210 W. Northwest Highway Palatine, IL 60067
AI	Asphalt Institute P.O. Box 14052 Lexington, KY 40512-4052
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006
AIA	American Insurance Assoc. 1130 Connecticut Ave., NW, Suite 1000 Washington, DC 20036
AIHA	American Industrial Hygiene Assoc. 2700 Prosperit Ave., Suite 250 Fairfax, VA 22031
AISC	American Institute of Steel Construction One East Wacker Dr., Suite 3100 Chicago, IL 60601-2001
AISI	American Iron and Steel Institute 1101 17th St., NW Washington, DC 20036-4700
ILI	Indiana Limestone Institute of America Stone City Bank Building, Suite 400 Bedford, IN 47421
IRI	Industrial Risk Insurers P.O. Box 5010 85 Woodland St Hartford, CT 06102-5010
ISA	Instrument Society of America P.O. Box 12277 67 Alexander Dr. Research Triangle Park, NC 27709
LIA	Lead Industries Association, Inc. 295 Madison Ave. New York, NY 10017
LPI	Lightning Protection Institute 3365 N. Arlington Heights Rd., Suite J Arlington Heights, IL 60004
MCAA	Mech Contractors Assoc of America 1385 Piccard Dr. Rockville, MD 20850-4329
ML/SFA	Metal Lath/Steel Framing Assoc. (A Division of the National Association of A/Eural Metal Manufacturers) 600 S. Federal St., Suite 400 Chicago, IL 60605
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park St., NE Vienna, VA 22180
NAA	National Arborist Assoc. Route 101, P.O. Box 1094 Amherst, NH 03031-1094
NAAMM	National Association of A/Eural Metal Manufacturers 600 S. Federal St., Suite 400 Chicago, IL 60605
NAIMA	North American Insulation Manufacturers Assoc. 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314

ALI	Associated Laboratories, Inc. c/o HOH Chemicals 500 S. Vermont St. Palatine, IL 60067
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20875
AMCA	Air Movement and Control Assoc. 30 W. University Dr. Arlington Heights, IL 60004-1893
ANSI	American National Standards Institute 11 West 42nd St., 13th Floor New York, NY 10036
AOAC	AOAC International 2200 Wilson Blvd., Suite 400 Arlington, VA 22201-3301
AOSA	Association of Official Seed Analysts California State Seed Laboratory 1220 N St. Sacramento, CA 95814
APA	American Plywood Assoc. P.O. Box 11700 Tacoma, WA 98411
API	American Petroleum Institute 1220 L St., NW Washington, DC 20005
ARI	Air-Conditioning and Refrigeration Institute 4301 Fairfax Dr., Suite 425 Arlington, VA 22203
ARMA	Asphalt Roofing Manufacturers Assoc. 6000 Executive Dr., Suite 201 Rockville, MD 20852-3803
ASA	Acoustical Society of America 500 Sunnyside Blvd. Woodbury, NY 11797
ASC	Adhesive and Sealant Council 1627 K St., NW, Suite 1000 Washington, DC 20006-1707
NAPA	National Asphalt Pavement Assoc. NAPA Building 5100 Forbes Blvd. Lanham, MD 20706-4413
NAPF	National Association of Plastic Fabricators (Now DLPA)
NBHA	National Builders Hardware Assoc. (Now DHI)
NCRPM	National Council on Radiation Protection and Measurements 7910 Woodmont Ave., Suite 800 Bethesda, MD 20814
NEC	National Electrical Code (from NFPA)
NECA	National Electrical Contractors Assoc. 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814
NEII	National Elevator Industry, Inc. 185 Bridge Plaza, North Fort Lee, NJ 07024
NEMA	National Elect Manufacturers Assoc. 2101 L St., NW, Suite 300 Washington, DC 20037
NETA	International Electrical Testing Assoc. P.O. Box 687 Morrison, CO 80465
NFPA	National Fire Protection Assoc. One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101
NFPA	National Forest Products Assoc. (Now AFPA)
NHLA	National Hardwood Lumber Assoc. P.O. Box 34518 Memphis, TN 38184-0518
NLGA	National Lumber Grades Authority 4400 Dominion St., Suite 103 Burnaby, BC V5G 4G3

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329
ASME	American Society of Mech Engineers 345 East 47th St. New York, NY 10017
ASPE	American Society of Plumb Engineers 3617 Thousand Oaks Blvd., Suite 210 Westlake, CA 91362
ASSE	American Society of Sanitary Engineering P.O. Box 40362 Bay Village, OH 44140
ASTM	American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103-1187
ATIS	Alliance for Telecommunications Industry Solutions 1200 G St., NW, Suite 500 Washington, DC 20005
AWI	Architectural Woodwork Institute P.O. Box 1550 13924 Braddock Rd., No. 100 Centerville, VA 22020
AWS	American Welding Society 550 LeJeune Rd., NW Miami, FL 33126
AWPA	American Wood Preservers' PO Box 286 Woodstock, MD 21163-0286
AWWA	American Water Works Assoc. 6666 W. Quincy Ave. Denver, CO 80235
BHMA	Builders' Hardware Manuf Assoc. 355 Lexington Ave., 17th Floor New York, NY 10017
NMCA	National Concrete Masonry 2302 Horse Pen Road Herndon, VA 22071-3406
NPA	National Particleboard Assoc. 18928 Premiere Ct. Gaithersburg, MD 20879
NPCA	National Paint and Coatings Assoc. 1500 Rhode Island Ave., NW Washington, DC 20005
NRCA	National Roofing Contractors Assoc. 10255 W. Higgins Rd., Suite 600 Rosemont, IL 60018-5607
NSF	National Sanitation Foundation 3475 Plymouth Rd. P.O. Box 130140 Ann Arbor, MI 48113-0140
NTMA	National Terrazzo and Mosaic Assoc. 3166 Des Plaines Ave., Suite 132 Des Plaines, IL 60018
NWMA	National Woodwork Manuf. Assoc. (Now NWWDA)
NWCB	Northwest Wall & Ceiling Bureau 1032-A N.E. 65th Street Seattle, WA 98115
NWWDA	National Wood Window and Door Assoc. 1400 E. Touhy Ave., #G54 Des Plaines, IL 60018
PATMI	Power Actuated Tool Manufacturers' Institute, Inc. 1000 Fairgrounds Rd., Suite 200 St. Charles, MO 63301
PCA	Portland Cement Assoc. 5420 Old Orchard Rd. Skokie, IL 60077
PCI	Precast/Prestressed Concrete Institute 175 W. Jackson Blvd. Chicago, IL 60604
PDI	Plumbing and Drainage Institute c/o Sol Baker 1106 W. 77th St., South Dr. Indianapolis, IN 46260

BIFMA	The Business and Institutional Furniture Manufacturer's Association 2680 Horizon Dr., SE, Suite A1 Grand Rapids, MI 49546-7500
CAGI	Compressed Air and Gas Institute c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851
CAUS	Color Association of the United States 409 W. 44th St. New York, NY 10036
CBM	Certified Ballast Manufacturers Assoc. 1422 Euclid Ave., Suite 402 Cleveland, OH 44115-2851
CCC	Carpet Cushion Council P.O. Box 546 Riverside, CT 06878
CFFA	Chemical Fabrics & Film Assoc, Inc. c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851
CGA	Compressed Gas Assoc. 1725 Jefferson Davis Highway Suite 1004 Arlington, VA 22202-4100
CISCA	Ceiling and Interior Systems. Construction Assoc 579 W. North Ave., Suite 301 Elmhurst, IL 60126
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Rd., Suite 419 Chattanooga, TN 37421
CRI	Carpet and Rug Institute P.O. Box 2048 Dalton, GA 30722
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Rd. Schaumburg, IL 60173
CTI	Ceramic Tile Institute of America 12061 West Jefferson Blvd. Culver City, CA 90230
DHI	Door and Hardware Institute 14170 Newbrook Dr. Chantilly, VA 22021-2223
PEI	Porcelain Enamel Institute 102 Woodmont Blvd., Suite 360 Nashville, TN 38205
RFCI	Resilient Floor Covering Institute 966 Hungerford Dr., Suite 12-B Rockville, MD 20805
RMA	Rubber Manufacturers Assoc. 1400 K St., NW Washington, DC 20005
SDI	Steel Door Institute 30200 Detroit Rd Cleveland, OH 44145
SGCC	Safety Glazing Certification Council c/o ETL Testing Laboratories Route 11, Industrial Park Cortland, NY 13045
SHLMA	Southern Hardwood Lumber Manufacturers Assoc. (Now HMA)
SIGMA	Sealed Insulating Glass Manuf Assoc. 401 N. Michigan Ave. Chicago, IL 60611
SMACNA	Sheet Metal and Air Conditioning Contractors National Assoc. 4201 Lafayette Center Dr. Chantilly, VA 22021
SPRI	Single Ply Roofing Institute 20 Walnut St. Wellesley Hills, MA 02181
SSPC	Steel Structures Painting Council 4516 Henry St. Pittsburgh, PA 15213
SSPMA	Sump and Sewage Pump Mfg Assoc. P.O. Box 647 Northbrook, IL 60065-0647
STI	Steel Tank Institute 570 Oakwood Rd. Lake Zurich, IL 60047
TCA	Tile Council of America P.O. Box 326 Princeton, NJ 08542-0326

DIPRA	Ductile Iron Pipe Research Assoc. 245 Riverchase Parkway East, Suite O Birmingham, AL 35244
DLPA	Decorative Laminate Products Assoc. 13924 Braddock Rd. Centreville, VA 22020
ECSA	Exchange Carriers Standards Assoc. (Now ATIS)
EIA	Electronic Industries Assoc. 2001 Pennsylvania Ave., NW Washington, DC 20006-1813
EJMA	Expansion Joint Manufacturers Assoc. 25 N. Broadway Tarrytown, NY 10591
ETL	ETL Testing Laboratories, Inc. P.O. Box 2040 3933 Route 11, Industrial Park Cortland, NY 13045
FCIB	Floor Covering Installation Board 310 Holiday Ave. Dalton, GA 30720
FM	Factory Mutual Systems 1151 Boston-Providence Turnpike P.O. Box 9102 Norwood, MA 02062
FTI	Facing Tile Institute P.O. Box 8880 Canton, OH 44711
GA	Gypsum Association 810 First St., NE, Suite 510 Washington, DC 20002
GANA	Glass Assoc. of North America 3310 S.W. Harrison St. Topeka, KS 66611-2279
TIMA	Thermal Insulation Manuf Assoc. (This Organization is now defunct. See NAIMA)
UL	Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062
UNI	Uni-Bel PVC Pipe Assoc. 2655 Villa Creek Dr., Suite 155 Dallas, TX 75234
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281
WLPDIA	Western Lath, Plaster, Drywall Industries Assoc. (Formerly California Lath & Plaster Assoc.) 8635 Navajo Rd. San Diego, CA 92119
WRI	Wire Reinforcement Institute 1101 Connecticut Ave. NW, Suite 700 Washington, DC 20036-4303
WSC	Water Systems Council 600 S. Federal St., Suite 400 Chicago, IL 60605
WWPA	Western Wood Products Assoc. Yeon Building 522 SW 5th Ave. Portland, OR 97204-2122
W.W.P.A	Woven Wire Products Assoc. 2515 N. Nordica Ave. Chicago, IL 60635

G. Federal Government Agencies: Federal government agency names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in the Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents. The following list may not be complete or may have additional listings not used in the Contract Documents. Refer to Gales Research Company "Encyclopedia of Associations", available in most libraries, for any missing names.

ADAAG ADA Accessibility Guidelines
Access Board
1331 F Street NW, Suite 1000
Washington, DC 20004-1111

CE Corps of Engineers
(U.S. Department of the Army)
Chief of Engineers - Referral
Washington, DC 20314

CFR Code of Federal Regulations
(Available from the Government Printing
Office)

N. Capitol St. between G and H St., NW
Washington, DC 20402
(Material is usually first published in the "Federal Register")

CPSC Consumer Product Safety Commission
5401 Westbard Ave.
Bethesda, MD 20207

CS Commercial Standard
(U.S. Department of Commerce)
Government Printing Office
Washington, DC 20402

DOC Department of Commerce
14th St. and Constitution Ave., NW
Washington, DC 20230

DOT Department of Transportation
400 Seventh St., SW
Washington, DC 20590

EPA Environmental Protection Agency
401 M St., SW
Washington, DC 20460

FAA Federal Aviation Administration
(U.S. Department of Transportation)
800 Independence Ave., SW
Washington, DC 20590

FCC Federal Communications Commission
1919 M St., NW
Washington, DC 20554

FDA Food and Drug Administration
5600 Fishers Lane
Rockville, MD 20857

FHA Federal Housing Administration
(U.S. Department of Housing and Urban Development)
451 Seventh St., SW
Washington, DC 20201

FS Federal Specification (from GSA)
Specifications Unit (WFSIS)
7th and D St., SW

Washington, DC 20407

GSA General Services Administration
F St. and 18th St., NW
Washington, DC 20405

MIL Military Standardization Documents
(U.S. Department of Defense)
Naval Publications and Forms Center
5801 Tabor Ave.
Philadelphia, PA 19120

NIST National Institute of Standards and Technology
(U.S. Department of Commerce)
Gaithersburg, MD 20899

OSHA Occupational Safety and Health Administration
(U.S. Department of Labor)
200 Constitution Ave., NW
Washington, DC 20210

PS Product Standard of NBS
(U.S. Department of Commerce)
Government Printing Office
Washington, DC 20402

REA Rural Electrification Administration
(U.S. Department of Agriculture)
14th St. and Independence Ave., SW
Washington, DC 20250

USDA U.S. Department of Agriculture
Independence Ave.
Washington, DC 20250

USPS U.S. Postal Service
475 L'Enfant Plaza, SW
Washington, DC 20260-0010

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 42 00

SECTION 01 45 00 – QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 CONTRACTOR'S QUALITY CONTROL

A. General

1. Monitor quality control over subcontractors, suppliers, manufacturers, products, services, site conditions and workmanship, to produce work of specified quality.
2. Comply fully with manufacturer's instructions, including each step in sequence.
3. Should manufacturer's instruction conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
4. Comply with specified standards as minimum quality for work except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
5. Perform work by persons qualified to produce workmanship of specified quality.
6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

B. References

1. Refer to the following section: Cutting and Patching, Section 01 73 29.
2. Conform to reference standard by date of issue current on date of Contract Documents.
3. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
4. Contractual relationship of parties to contract shall not be altered from Contract Documents by mention or inference otherwise in any reference document.

C. Field Samples

1. Install field samples at site as required by individual specifications sections for review.
2. Acceptable samples represent quality level for work.
3. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Architect/Engineer.

D. Manufacturer's Field Services And Reports

1. Submit qualifications of Observer to Architect/Engineer 30 days in advance of required observations. Observer subject to approval of Architect/Engineer and Owner.
2. When specified in individual specification sections, require material or product suppliers or manufacturer's to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, testing, adjusting and balancing of equipment and as applicable and to initiate instructions when necessary.

3. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions and that equipment or system has been properly installed and is functioning correctly.
4. Submit report in duplicate within 5 days of observation to Architect/Engineer or review.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 45 00

SECTION 01 45 23 – INSPECTIONS AND TESTS

PART 1 GENERAL

1.1 REQUIREMENTS SPECIFIED ELSEWHERE

A. Inspections and testing required by laws, ordinances, rules, and orders of Public Authorities. Product Certification; see respective Specification Sections. Equipment testing, adjusting and balancing; see respective Specification Section.

B. Anticipated Special Inspections will be required as shown on drawings.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 45 23

SECTION 01 61 00 – COMMON PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

B. For requirements peculiar to a given product, material, or piece of equipment, see appropriate technical specification Section.

1.2 DEFINITIONS

A. Definitions used in this Section are not intended to change the meaning of other terms used in the Contract Documents.
   1. Product: "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from the Contractor’s previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   2. "Named Products" are items identified by the manufacturer's product name, including such items as a make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
   3. "Materials" are products that must be shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
   4. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.3 SUBMITTALS

A. See Section 01 33 00 for submittal requirements.

B. Proposed Product List: See Individual Product Selections.

C. Long-Lead-Time Items
   1. Provide copies of purchase orders for long-lead-time items to the Architect within twenty (20) days after receipt of Notice to Proceed.
   2. Forward copies of acknowledgment, production and shipping schedules to Architect as they are received for all required items.

D. Submit three (3) copies in conformance with provisions of Article 2.3 below.

1.4 QUALITY ASSURANCE

A. To the fullest extent possible, provide products of the same kind from a single source.

B. When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options. Compatibility is a basic general requirement of product/material selections.

C. Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior. Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. All access routes, staging areas, loading restrictions, and other uses of the building shall be coordinated and approved by the A/E and Owner prior to the start of work. Ease of access to the building is limited and should be verified prior to moving materials.

B. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
   1. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing to prevent damage, deterioration, loss or theft. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage. Where appropriate, submit MSDS for all delivered products.
   2. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
   3. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
      a. Store with lids sealed, outside of building, all glues, adhesives, sealers, caulking, mastics, cleaners, paints, thinners and related flammable and hazardous materials.
   4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that quantities are correct and that products are undamaged and properly protected. Reject damaged and defective items.

5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units. Store and protect in accordance with manufacturers' instructions, with seals and labels intact and legible.
6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
7. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
8. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
9. Prevent contact with material that may cause corrosion, discoloration, or staining.
10. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.6 JOB CONDITIONS

A. Pre-Installation Conferences
   1. At each meeting review progress of other work and preparations for particular work under consideration, including requirements of Contract Documents, options, related change orders, purchases, deliveries, shop drawings, product data, quality control samples, possible conflicts, compatibility problems, time schedules, weather limitations, temporary facilities, space and access limitations, structural limitations, governing regulations, safety, inspection and testing requirements, required performance results, recording requirements, and protections.
   2. Record attendees, signification discussions of each conference, and agreements and disagreements, along with final plan of action; distribute record of meeting promptly to everyone concerned including A/E and Owner.
      a. Do not proceed with the work if associated pre-installation conference cannot be concluded successfully.
      b. Instigate actions to resolve impediments to performance of the work, and reconvene conference at earliest date feasible.
   3. Discuss any pertinent issues at the weekly Progress Meetings; see Section 01 31 19 – Project Meetings.

PART 2 - PRODUCTS

2.1 GENERAL PRODUCT REQUIREMENTS

A. Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.

1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
2. Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar application.
3. Color and Appearance Consistency of Finish Materials: All finish materials of their respective kinds, in regards to construction phasing, shall be consistent in color and appearance throughout the total Project and shall be purchased out of one dye lot, production run, batch, etc., as applicable, for the total Project for each respective material.

B. Additional Requirements: Material and equipment incorporated in to the work:
1. Shall conform to applicable specifications and standards.
2. Shall comply with size, make, type and quality specified or as specifically approved in writing by Architect.
3. Shall be free of ASBESTOS, FORMALDEHYDE and LEAD.
4. Manufactured and Fabricated Products:
    a. Design, fabricate, and assemble in accordance with first-class "Workmanship" as defined in these Contract Documents.
    b. Manufacture like parts of duplicate units to standard sizes and gauges; parts to be interchangeable.
    c. Two or more items of the same kind to be identical and by same manufacturer (whether furnished under one Section or more).
    d. Products shall be suitable for service conditions.
    e. Adhere to indicated equipment capacities, sizes, and dimensions unless variations are specifically approved in writing.
    f. Except where field finishing is specified or otherwise required, products and fabricated items shall be pre-finished off-site.
5. Do not use materials and equipment for other than designed or specified purposes and uses.

C. Nameplates: Except as otherwise indicated for required approval labels, and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of the work.
1. Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.

2. Equipment Nameplates: Provide permanent nameplate on each item of service connected or power-operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings and similar essential operating data. Locate nameplates on an easily accessed surface which, in occupied spaces, is not conspicuous.

2.2 PRODUCT SELECTION

A. The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
   1. Proprietary Specification Requirements. Where only a single product or manufacturer is named, or indicates “no equals”, “no substitutions”, or “no exceptions”, provide the product indicated. Notify A/E if it is discovered that the named product does not comply with the contract documents, or is not appropriate for the function intended.
   2. Semi proprietary Specification Requirements. Where two or more products or manufacturers are named, or indicates “no equals”, “no substitutions”, or “no exceptions”, provide one of the products indicated. Notify A/E if it is discovered that none of the named products complies with the contract documents, or is not appropriate for the function intended.
   3. Nonproprietary Specification Requirements. Where the Specifications list products or manufacturers, or indicates “or approved equal” or “other acceptable”, comply with Contract Document provisions concerning PRODUCT SUBSTITUTION to obtain approval for use of another product.
   4. Descriptive Specification Requirements. Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
   5. Performance Specification Requirements. Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated. Submit manufacturer's recommendations contained in published product literature or by the manufacturer's certification of performance for approval by A/E.
   6. Visual Matching. Where matching an established sample is required, the A/E’s decision will be final on whether a proposed product matches satisfactorily.
      a. Where there is no product available within the specified category which matches satisfactorily and also complies with other specified requirements, comply with the provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
   7. Visual Selection. Where specified product requirements include the phrase "...as selected from manufacturer's standard colors,

patterns, textures ..." or similar phrases, select a product and manufacturer that complies with other specified requirements. The A/E will select the color, pattern, and texture from the product line selected.

2.3 PRODUCT SUBSTITUTION

A. General Provisions

1. The requirements for substitutions do not apply to specified Subcontractor options on products and construction methods. Revisions to Contract Documents, where requested by Owner or Architect, are "changes" not "substitutions".
2. Subcontractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions" and do not constitute a basis for change orders, except as provided for in contract documents. Otherwise, the Subcontractor's requests for changes in products, materials and methods of construction required by contract documents are considered requests for "substitution", and are subject to requirements hereof.
3. If a bidder or Contractor desires approval of some material or product other than that specified, it shall submit a written request for approval of the substitute item in accordance with the following requirements:
    a. All such requests must be made on the SUBSTITUTION REQUEST FORM at end of this Section. Where specifications specify a product color and/or pattern, Contractor shall include a sample of proposed product/item at a size appropriate to make an evaluation with the specified product.
    b. No request for approval will be considered unless submitted in accordance with this Section.
    c. Final decision as to whether an item is an equal or satisfactory substitution rests with Owner.
4. Every substitution request must state whether the item offered is equal or equivalent to the specified product. The substitute material or product must be accompanied by its reference in the Contract Documents and complete catalog, technical and other information. If applicable, include samples showing comparison of physical and other pertinent characteristics as required to establish equivalence of acceptability for the proposed application. Where specific test results are required by the Contract Documents, the comparison data for the proposed item shall be based upon the same test methods as those specified, or they shall be correlated to clearly demonstrate comparability. The same guarantee described for the specified product is required for the substitution.

B. Substitutions – During Bidding Period: During the Bid period, submit substitution requests for approval of substitute materials or products, for all items indicated as proprietary or “approved equal” semi-proprietary. All requests shall be received by A/E no later than seven (7) days, or as indicated elsewhere in the Contract Documents, prior to scheduled time for receipt of bid in order to receive consideration. Bidders will be informed by addendum of additional materials and products approved for use. No other form of approval will be given during the bid period and bidders shall not rely upon any approval not incorporated into the Contract Documents in this manner.

C. Substitutions – After Starting Work: After Contract Award, requests for approval of substitute materials or products for all items indicated as proprietary, semi-proprietary or “approved equal” will not be considered, unless one or more of the following conditions exists. With its request, Contractor shall indicate which condition it believes applies.

1. Unavailability. A substitution is required because the specified item is not available, due to factors beyond the control of Contractor. (Unavailability due to late order is not cause for substitution requests).
2. Unsuitability. Subsequent information or changes disclose inability of the specified item to perform as intended.
3. Regulatory Requirements. Final interpretation of Code, regulatory requirements, safety requirements, or insurance requirements necessitate a change due to inability of the specified item to conform.
4. Warranty. Manufacturer or fabricator cannot certify or warrant performance of specified item as required.
5. Owner's Benefit. In the judgment of the Contractor, acceptance of the proposed substitution is clearly in Owner's best interest because of cost, quality, or other consideration. In requesting a substitution under this clause, Contractor shall furnish substantiation of any such reason and proposed credit.

D. Substitution requests for approval of substitute materials or products for all items not followed by restrictive language will be considered if the Contractor submits information and documentation as required by 2.3C above. The proposed product or material shall be equal or equivalent to the specified item and shall be subject to the same redesign and coordination as all substituted items.

1. Substitution requests submitted for an unnamed, non-prior approved product/manufacturer where such products are specified by the listing of three or more named approved products/manufacturers, shall be accompanied with a check in the amount of $300, made payable to the A/E for additional time required to research and evaluate such unnamed product/manufacturer. Such payment will only afford review of such a submittal and does not guaranty said proposed substitute product/ manufacturer will be approved.

E. In making request for approval of substitute materials, the Bidder/Contractor shall represent that it has investigated the proposed product and, in its opinion, it is equal or superior in equivalence in all respects to that specified. Also, Contractor shall coordinate all trades including changes thereto as may be required, that it waives all claims for additional costs which subsequently become apparent as a consequence of the substitution, and that it will bear all costs related hereto, including costs of A/E's services for redesign, if deemed necessary.

F. Substitutions will not be considered if they are indicated or implied on Shop Drawings or other project data submittals, without proper notice shown on the SUBSTITUTION REQUEST FORM at the end of this Section. Submissions received that include products or manufacturers not listed in the specifications or approved on the form during the bid period will be returned and marked “Revise and Resubmit”.

G. Action By A/E
   1. During Bidding Period: If the A/E approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.
   2. After Start of Work:
      a. Within one week of receipt of Contractor's request for substitution, the A/E will request whatever additional information or documentation may be needed for their evaluation of the request.
      b. Within two weeks of receipt of request, or within one week of receipt of requested additional information or documentation (whichever is later), the A/E will notify the Contractor of either their acceptance or rejection of the proposed substitution.
         1) Rejection will be the endorsement on the form provided by the Contractor and will include statement of the reasons for rejection (non-compliance with the requirements for requested substitutions, or other reasons as detailed).
         2) Acceptance will be the endorsement on the form provided the Contractor.

PART 3 - EXECUTION

3.1 INSPECTIONS & ACCEPTANCE OF SUBSTRATES

A. Installer’s Inspection of Conditions
   1. Require Installer of each major unit of work to inspect substrate to receive the work, and conditions under which the work will be performed, and to report (in writing to Contractor) unsatisfactory conditions.

2. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

B. Contractor’s Inspection. Inspect each item of material or equipment immediately prior to installation, and reject damaged and defective items.

3.2 GENERAL INSTALLATION PROVISIONS

A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
   1. When Contract Documents require installation of work to comply with Manufacturer’s printed instructions, obtain and distribute instructions to concerned parties, including A/E, and field office, before starting that particular work.
   2. Until project is complete, maintain at jobsite one (1) set of complete installation and maintenance instructions for materials and equipment.
   3. Handle, install, connect, clean, condition and adjust products in accordance with Manufacturer’s recommendations, directions and specified requirements.
      a. Should job conditions or specified requirements conflict with Manufacturer’s instructions, consult with A/E for further instructions.
      b. Do not proceed with work without clear instructions.
   4. Perform work in accordance with Manufacturer’s instructions. Do not omit any preparatory step or installation procedure unless it is:
      a. Verified with and accepted by A/E in writing.
      b. Specifically modified or exempted by Contract Documents.
      c. Perform additional requirements that are specified which are greater than the manufacturer’s requirements and do not have a deleterious affect on the product being installed.

B. Owner-Furnished Products
   1. Refer to Drawings for identification of Owner furnished products.
   2. Owner's Responsibilities:
      a. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
      b. Arrange and pay for product delivery to site.
      c. On delivery, inspect products jointly with Contractor.
      d. Submit claims for transportation damage and replace damaged, defective, or deficient items.
      e. Arrange for manufacturers' warranties, inspections, and service.

3. Contractor's Responsibilities:
    a. Review Owner reviewed shop drawings, product data, and samples.
    b. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
    c. Handle, store, install and finish products.
    d. Repair or replace items damaged after receipt.

C. Attachment & Connection Devices & Methods
1. Provide attachment and connection devices and methods necessary for anchoring work securely and properly in place as it is installed; install true to line and level, and within recognized industry tolerances if not otherwise indicated.
2. Allow for expansions and building movements.
3. Provide uniform joint widths in exposed work, organized for best possible visual effect. Refer questionable visual-effect choices to A/E for final decision.

D. Precautions
1. Acclimate product to room conditions as required by standard specifications and/or as recommended by manufacturer.
2. Install work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion which will ensure best possible results for each unit of work, in coordination with entire work.
3. Isolate each unit of work from non-compatible work, as required to prevent deterioration.
4. Re-check measurements and dimensions of the work, as an integral step of starting each installation.
5. Coordinate enclosure (closing-in) of work with required inspections and tests, so as to avoid necessity of uncovering work for that purpose.

E. Mounting Heights: Except as otherwise indicated in the Contract Documents, mount individual units of work at industry recognized standard mounting heights, for applications indicated. Refer questionable mounting height choices to A/E for final decision.

F. In-Place Protection
1. General
    a. During handling and installation of work at project site, clean and protect work in progress and adjoining work on a basis of perpetual maintenance.
    b. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of Substantial Completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period.

c. Adjust and lubricate moving components to ensure operability without damaging effects. Contractor is responsible for function, condition and unblemished appearance of all work on Project, and any item or work judged defective by A/E shall be subject to replacement at no additional cost to Owner.

2. To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period.

END OF SECTION 01 61 00

SUBSTITUTION REQUEST FORM

TO: RMC Architects
1223 Railroad Avenue
Bellingham, WA 98225

ATTN: Jason Williard, AIA

PROJECT NAME:_____

CONTRACTOR:_____

We hereby submit for consideration, the following product instead of the specified items for above project:

SECTION	PARAGRAPH	SPECIFIED ITEM

Proposed substitution:_____

Attach complete dimensional information and technical data, including laboratory tests, if applicable.

Include complete information on changes to Drawings and Specifications which proposed substitution will require for its proper installation.

Submit with request all necessary samples and substantiating data to provide equal quality, performance, and appearance to that specified. Clearly mark Manufacturer's literature to indicate equality or equivalence in performance. Indicate differences in quality of materials and construction.

Fill in blanks below:

A. Does the substitution affect dimensions shown on Drawings:
No ___Yes___. If yes, clearly indicate changes:
_____

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by requested substitution?
_____

C. What effect does substitution have on other trades, other Contracts, and contract completion date?
_____

D. What effect does substitution have on applicable code requirements?
_____

E. Differences between proposed substitution and specified item.
_____

F. Manufacturer's warranties of the proposed and specified items are:
Same _____ Different _____(explain)
_____

G. List of names and addresses of 3 similar projects on which product was used, date of installation, and A/E's name and address. (Attach list with requested information)
_____

H. Cost impact:_____

Undersigned attests function and quality are equal or equivalent to specified items.

CERTIFICATION OF EQUAL OR EQUIVALENT PERFORMANCE AND ASSUMPTION OF LIABILITY FOR EQUAL OR EQUIVALENT PERFORMANCE

_____ Date_____
Signature

_____
Firm

_____
Address
_____

_____
Telephone Fax

Signature must be by person having authority to legally bind Contractor to the above terms.

For Use by A/E: _____**Accepted** _____**Not Accepted**
_____**Accepted As Noted** _____**Received Too Late**

END OF FORM

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 CUTTING AND PATCHING

A. Extent Of Work

1. See Selective Demolition, Section 02 41 13.
2. Perform all cutting, fitting and patching, including excavation and backfill, required to complete work or to make work fit properly together.
3. Remove and replace defective work and work not conforming to Contract Documents.
4. Provide openings through non-structural surfaces for Mechanical and Electrical work.

B. Submittals

1. Submit written request 48 hours in advance of cutting or altering elements which effects:
   a. Structural integrity of element.
   b. Integrity of weather-exposed or moisture-resistant elements.
   c. Efficiency, maintenance, or safety of element.
   d. Visual Qualities of sight-exposed elements.
   e. Work of Owner or separate Contractor.
   f. Utilities.

C. Hazardous Materials

1. Asbestos-containing materials are not anticipated to be found in the existing buildings. Such materials most often include thermal insulation, acoustical insulation and sprayed or trowelled-on fireproofing. Workers may encounter asbestos-containing materials which were unable to be identified. Particular precautions shall be exercised in certain areas including, but not limited to flooring, wall spaces, crawl spaces, tunnels, pipe enclosures, boiler rooms, roofing and behind wall heating units.
2. Asbestos and P.C.B. materials are not anticipated to be found in the existing buildings. Workers may encounter such material(s) which were unable to be identified. Particular precautions shall be exercised during demolition.
3. If asbestos or P.C.B. material is believed to be encountered on site, the Contractor shall immediately stop work in the area affected and report the condition to the Architect in writing.
4. The Contractor shall be responsible for the removal of all asbestos and P.C.B.'s as identified.

5. Submit notification for this work at least 48 hours in advance of the time the work is to be performed. Requirements of other procedures such as utility shutdown notices or coordination with building occupant activities may supersede this advance notice time allotment. The advance notice shall not include holidays and weekends. The proposed procedure, as applicable, shall include the following information:
    a. Describe the nature of the work and how it is to be performed, including an indication of why the work cannot be avoided. Describe anticipated results in terms of changes in the existing work, structural, visual and operational changes.
    b. List products, equipment and Subcontractors to be utilized. All methods shall be approved by Owner's Representative before beginning.
    c. Give dates, times and duration of each type of cutting and patching work.
    d. Describe utility interruptions, shutdown events and any other coordination events.
    e. Where cutting and patching involves any alterations to the integrity of structural systems, submit details and engineering calculations that show how work will be restored to maintain structural requirements.
    f. Approval of the Architect to proceed with cutting and patching work does not waive the Architect's right to later require complete removal and replacement of work performed in an unsatisfactory or deficient manner.
    g. Work requiring any concrete cutting or brazing, grinding, welding or soldering of metals or any work producing gases or particle capable of activating ionization or smoke/heat detectors, shall require five days notice.

C. Products

1. Materials:
    a. Unless otherwise indicated or as directed by the Architect, use materials for cutting and patching that are identical to existing materials. If identical materials are not available or cannot be used, use materials that match adjacent surfaces to the fullest extent possible with regard to visual effect and structural integrity. Use cutting and patching materials and techniques that will result in equal-or-better performance characteristics.

D. Execution

1. Inspection:
    a. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.
    b. Before starting the work, convene at the site all parties involved with cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict between the various trades. Coordinate layout and scheduling of the work and resolve potential conflicts before proceeding.
2. Provide adequate temporary support and bracing prior to the cutting of any work.
    a. Properly protect other work during cutting and patching to prevent damage. Protect from adverse weather conditions for that part of the project that may

be exposed during cutting and patching operations. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas through proper coordination with ongoing building use.

b. Take precautions to avoid the cutting of existing pipe, conduit or ductwork, serving any existing area. Schedule reallocations or by-passes as required to alleviate any interruptions of service. Schedule minor or major shutdowns in accordance with Owner's procedure, as outlined in these Specifications.

3. After uncovering work, inspect conditions affecting products installation or performance. Report unsatisfactory and questionable conditions to Architect in writing; do not proceed with work until Architect provides further instructions.

E. Performance

1. Employ only skilled workmen to perform cutting and patching work. Unless otherwise approved, engage in cutting and patching work as soon as possible and perform as quickly as possible.
2. Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible, review proposed procedures with original installer and comply with recommendations.
3. Use small hand or power tools designed for sawing and grinding, rather than hammering or chopping. When cutting through asphalt concrete, concrete or masonry, use a cutting machine such as a carborundum saw or core drill to provide a neat hole. Cut holes and slots neatly to size required with minimum disturbance to adjacent work. To avoid marring of existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
4. Comply with the requirements of applicable sections of Division 02 where cutting and patching requires excavation and backfilling.
5. By-pass utility services such as pipe and conduit before cutting where such utilities are shown or required to be removed, relocated or abandoned. After by-pass and cutting, cap, valve or plug and seal tight the remaining portion of pipe to prevent entrance of moisture or other foreign matter.
6. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work. Where possible, inspect and test patched area to demonstrate integrity of seam. Restore exposed finishes of patched are as and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing. Thoroughly clean areas and spaces where work is performed or used as access to work. Restore damaged material to its original condition.

F. Existing Utilities And Shut Downs

1. Utility Shutdown: Protect from damage, active utilities existing and evident by reasonable inspection of the site whether shown or not on the Drawings. Protect, relocate or abandon utilities encountered in the work which are not shown on the Drawings or evident by inspection of the work as directed by the Architect. Maintain continuity of utilities services to existing equipment and buildings.

2. Damage to these utilities shall be the sole responsibility of the Contractor. The Contractor shall repair any damage to and damage resulting from demolition, to existing utilities at no cost to the Owner. Repair of utilities shall be made with like new products of the same type and style as those damaged or as required by code.
3. All necessary service interruption of utilities shall be scheduled with the Owner. Interruptions shall require a written notice and shall be scheduled between the hours as specified for shutdown requests. Show all planned shutdowns or utility connections to existing systems on all submitted critical path schedule.
4. Owner's Representatives will review effect of proposed disruption as it relates to building functions. If necessary, a more convenient time will be stipulated.
5. Upon completion of disruption, verify with Owner's Representative that all valves, disconnects and like controls have been turned on to assure the affected systems are back in service.

G. Structural Integrity

1. Maintain adequate temporary support necessary to assure structural integrity of affected work.
   a. All engineering required for temporary supports shall be by a licensed engineer in the state of Washington and provided by the contractor.
2. Cutting of structural framing not permitted unless with written approval of Architect and Structural Engineer or as shown on drawings.
3. All cutting, drilling, etc. in existing concrete structure shall be done only after locating to avoid the existing concrete reinforcing or as specified on equipment necessary for this procedure.

H. Performance

1. Replace cut or removed work with new like products to provide work complete in accordance with Contract Documents.
2. Fit work tight to pipes, sleeves, ducts, conduits and other surface penetrations.
3. Where patching occurs, refinish entire surface to provide even finish to match adjacent work.
4. All openings or reduction in size of exiting materials and structures shall be first cut or drilled with power operated tools for clean finished cuts and surfaces prior to demolishing existing areas.
   a. All cuts shall be made with no over cuts unless otherwise specified by this contract.
   b. All machinery shall comply with "Noise and Vibration Control" requirements.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 73 29

SECTION 01 74 19 – CONSTRUCTION WASTE MANAGEMENT & DISPOSAL

PART 1 – GENERAL

1.1 DESCRIPTION

A. The Owner desires that this project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

B. Of the waste material that is generated, as much as economically feasible shall be reused, salvaged, or recycled. Recycle and/or salvage at least 50% of the non-hazardous construction and demolition. Recycle and/or salvage an additional 25% (75% total) of nonhazardous construction and demolition debris. This is consistent with the intent of RCW 39.04.135 and is mandated whenever practicable.

C. Following all governing regulations per Skagit County Municipal Code Chapter 12.18 regarding disposal of Solid Waste, including waste sorting requirements and disposal locations.

D. With these goals, the contractor shall develop a Waste Management Plan for this project and submit for Owner review.

1.2 DEFINITIONS

A. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals and inorganic wastes.

B. Class III Landfill: A landfill that accepts non-hazardous waste such as household, commercial and industrial waste, including construction, remodeling, repair and demolition operations.

C. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

D. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

E. Environmental Pollution and Damage: The presents of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humanity; or degrade the utility of the environment for aesthetic, cultural or historical purposes.

F. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

G. Inert Fill: A permitted facility that accepts inert waste such as asphalt and concrete exclusively.
   1. Inert Solids / Inert Waste: Non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board pursuant to local regulations and does not contain significant quantities of decomposable solid waste.

H. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

I. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

J. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

K. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

L. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

M. Return: To give back reusable items or unused products to vendors for credit.

N. Reuse: To reuse a construction waste material in some manner on the project site.

O. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

P. Sanitary Wastes:
   1. Garbage: Refuse and scraps resulting from preparation, cooking, distribution or consumption of food.
   2. Sewage: Domestic sanitary sewage.

Q. Sediment: Soil and other debris that has been eroded and transported by storm or well production runoff water.

R. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

S. Toxic: Poisonous to humans either immediately or after a long period of exposure.

T. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

U. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.3 SUBMITTALS

A. See Section 01 33 00 for submittal procedures.

B. Landfill Alternatives Proposal – Draft Waste Management Plan: Within 14 working days after receipt of Notice to Proceed, or prior to any trash or waste removal, whichever occurs first, Contractor shall submit to the A/E and Owner for review and approval three (3) copies of the Draft Waste Management Plan projecting trash/waste that will require disposal and alternatives to landfilling, with net costs. The plan shall contain, as a minimum, the following:
   1. An analysis of trash/waste to be generated and landfill options as specified for Waste Management Plan described below.
   2. Describe as many alternatives to landfilling as possible.
      a. List each material proposed to be salvaged, reused, or recycled during the course of the Project.
      b. Estimate quantities for each waste stream.
      c. State the proposed recycle or disposal method for each waste stream.
      d. State on-site storage method for each waste stream.
      e. State transportation method for each waste stream.
      f. State the estimated net cost resulting from each alternative, after subtracting revenue from sale of recycled or salvaged materials and landfill tipping fees saved due to diversion of materials from the landfill.
   3. Provide alternatives to landfilling for at least the following materials:
      a. Aluminum and plastic beverage containers.
      b. Corrugated cardboard.
      c. Wood pallets.
      d. Clean dimensional wood: May be used as blocking or furring.
      e. Land clearing debris.
      f. Excavated soils.
      g. Concrete: May be crushed and used as riprap, aggregate, sub-base material, or fill.
      h. Bricks.
      i. Concrete masonry units (CMUs).
      j. Precast concrete panels.
      k. Asphalt paving: May be recycled into paving for project.
      l. Metals, including packaging banding, metal studs and trim, ductwork, piping, sheet metal, structural steel, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc,

lead, brass, and bronze.
m. Glass.
n. Gypsum drywall and plaster.
o. Carpet, carpet cushion, carpet tile, and carpet remnants, both new and removed: DuPont (http://flooring.dupont.com) and Interface (www.interfaceinc.com) conduct reclamation programs.
p. Asphalt roofing shingles.
q. Paint.
r. Plastic sheeting.
s. Rigid foam insulation.
t. Plumbing fixtures.
u. Mechanical and electrical equipment.
v. Fluorescent lamps (light bulbs).
w. Acoustical ceiling tile and panels.

4. Include the names for each subcontractor who will transport solid or hazardous waste from the site and the name of the receiving facility that will accept waste for disposal.

C. Review: The Draft Waste Management Plan will be reviewed by the A/E for comment with a copy going to the Owner.
1. The plan is checked to make sure all materials that may be economically recycled are listed.
2. The plan is also checked for the haulers, recyclers and disposal facilities, to include recycling, general waste and hazardous waste facilities.
3. Plan review comments are made by the A/E. Once no further comments are necessary, the contractor may proceed with its plan.

D. Waste Management Plan: Include the following information:
1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
a. List each material proposed to be salvaged, reused, or recycled.
b. List the local market for each material.
c. State the estimated net cost, versus landfill disposal.
4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.

6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.
7. Recycling Incentives: Describe procedures required to obtain credits, rebates, or similar incentives.

E. Implementation: The Contractor shall submit monthly a progress report summary of waste generated at the project. The summary shall be submitted on a form acceptable to the Owner and shall contain the following information:
1. For each material recycled, reused, or salvaged from the project, the amount (in tons or cubic yards), the date removed from the job site, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, the net total cost or savings of salvage or recycling the material. Include manifests, weight ticket receipts or invoices.
2. The amount (in tons or cubic yards) of material landfilled from the project, the location of the receiving facility, the total amount of tip fees paid at the landfill, and the total disposal cost. Include manifests, weight tickets, receipts and invoices.

F. Recycling Incentive Programs:
1. Where revenue accrues to Contractor, submit copies of documentation required to qualify for incentive.
2. Where revenue accrues to Owner, submit any additional documentation required by Owner in addition to information provided in periodic Waste Disposal Report.

1.4 RESOURCES

A. Contractor may request specific technical assistance or referrals from the following resources:

Waste Reduction Specialist
Solid Waste Services Program
Department of Ecology
(360) 407-6352

PART 2 - PRODUCTS

2.1 PRODUCT SUBSTITUTIONS

A. Notify Owner’s Representative when Contractor is aware of materials, equipment or products that meet the aesthetic and programmatic intent of Contract Documents, but which are more environmentally-sensitive than materials, equipment or products specified or indicated in the Contract Documents.

PART 3 – EXECUTION

3.1 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.
   4. Job safety meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. As a minimum, provide:
      a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
      b. Separate dumpsters for each category of recyclable.
      c. Recycling bins at worker lunch area.
   2. Provide containers as required.
   3. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
   4. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.
   5. Locate enclosures out of the way of construction traffic.
   6. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   7. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
   8. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

J. Disposal Operations:
   1. Promptly and legally transport and dispose of removed and demolished items and waste materials that are not identified to be recycled or reused.
   2. Do not burn, bury or otherwise dispose of rubbish and waste materials on project site.
   3. Aggregating material and/or hauling it off site shall not occur between the hours of 10:00 PM and 7:00 AM.

END OF SECTION 01 74 19

SECTION 01 77 00 – CONTRACT CLOSE-OUT

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section. Contractor shall coordinate closely.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
   1. Training of Owner's personnel.
   2. Maintenance Materials submission.
   3. Substantial Completion.
   4. Final Acceptance.

1.3 SEQUENCE OF CLOSE-OUT

A. The Contractor's superintendent shall perform a review of all installed work (general, mechanical, electrical) and note any corrections, touch-up, or otherwise restore marred, exposed surfaces, that is necessary to comply with the Contract Document requirements before requesting the A/E to review the Work. The Contractor shall develop a written correction list (pre-punch list) and track the completion of the items by initialing and dating each item, signifying that it has been reviewed and properly completed.

B. Comply with items under SUBSTANTIAL COMPLETION by submitting documentation and the Contractor's initialed correction list to the A/E with a letter requesting the A/E's review of the project.

C. Upon receipt of the information from the Contractor, the A/E will visit the site and review the Project with the Owner for compliance with the Contract Documents. The A/E will develop a punch-list of any work that still needs corrections. If the list is incidental corrective punch work to complete, the A/E will issue the notice of Substantial Completion with the corrections list attached. If the correction work is still significant, the Contractor shall complete the corrections in the same format as its pre-punch list and request additional reviews by the A/E as necessary to establish that the Project is complete to the point where the Substantial Completion notification can be issued.

D. Provide operation and maintenance instruction on installed equipment to Owner designated staff.

E. The Contractor shall correct any outstanding punch list items and submit all other close-out documentation to the A/E as indicated under FINAL ACCEPTANCE. When punch lists have been verified by the A/E as being complete and all documentation is satisfactory and accepted by the A/E, the A/E will issue its notification of Final Acceptance.

F. Upon receipt of the Owner and A/E's notification of Final Acceptance, The Port will advertise the Project as being accepted, starting the 45 day lien period.

1.4 PROJECT RECORD DOCUMENT SUBMITTAL

Refer to Section 01 78 00, Closeout Submittals.

1.5 OPERATION AND MAINTENANCE MANUALS

Refer to Section 01 78 00, Closeout Submittals.

1.6 OPERATING INSTRUCTION OF OWNER'S PERSONNEL

A. The Contractor shall provide for operating and maintenance instruction of Owner's personnel for items installed under this contract. Contractor shall provide for this instruction at a mutually agreeable time and place, which may be outside of Contractor's normal working hours.

1. Prior to any training, the Contractor is to complete all system start-up and functionality testing. The Contractor/Sub-contractor will then assist the A/E to review and confirm the systems are performing in accordance with the Contract Documents. If the documents identify that systems will be commissioned, the Owner may elect to have the commissioning agent also perform the functionality review with the Contractor. If commissioning is required, this will be completed prior to the Contractor and major subcontractors providing qualified personnel for conducting full on-site operation and maintenance training and instruction to Owner's designated user personnel and maintenance crews. Instruction shall include the proper operation, adjustment and maintenance of all general, mechanical and electrical operating systems and equipment. Contractor shall schedule this period in advance with the Owner and appropriate subcontractor or vendor's representative. This shall be scheduled two (2) weeks after submittal of the final Operating and Maintenance Manuals so that such information will be available for Owner staff familiarization prior to the time of this instructional period. Provide a minimum of (8) hours of such training and instructions on site, unless otherwise directed, conducted to Owner's satisfaction. Such instruction shall be given in time blocks not exceeding (4) hours in any one-day and shall be exclusive of off-site factory training for such items as the energy management system.

2. At each training session, provide a sign-in sheet for signature of all Owner staff that attend. Identify the sign-in sheet with the training being provided and the date of the training. Submit the sign-in sheet(s) with FINAL ACCEPTANCE procedure.
3. Except as otherwise specified, arrange for each installer of work requiring continuing maintenance or operation to meet with Owner's personnel at project site to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures.
4. Use operation and maintenance manuals as the basis for instruction. Review contents of manual with personnel in full detail to explain all aspect of operations and maintenance; include as a minimum record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and renewal of finishes, and similar procedures and facilities.
5. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain bonds, and similar containing commitments.
6. All equipment operation and maintenance instructions and training shall be video taped in a professional manner, at the expense of the Contractor, and the edited film delivered with documents for FINAL ACCEPTANCE.
7. In addition, provide (4) hours training for the energy management system.
8. Provide a minimum of (4) hours additional follow-up training sessions to be conducted four (4) months following initial training. Systems/equipment to be covered under these training sessions shall be as determined by the Owner.
9. In addition to or in conjunction with these training sessions, provide for (4) seasonal adjustment training sessions of the energy management system.

B. The Contractor shall submit a training synopsis for each system required under the Contract Documents to review operations and maintenance instruction and training. Submit training synopsis with each respective preliminary Operation and Maintenance Manual submittal. Each synopsis shall be reviewed by the A/E and approved or returned with comments if necessary. Written approval by the A/E of each synopsis is required prior to beginning such training.

C. For additional requirements for operating instructions, see respective Specification Sections.

1.7 MAINTENANCE MATERIALS

A. Provide maintenance materials (tools, spare parts, extra stock, etc) indicated in other sections of the specifications.
   1. Submit a receipt to the Owner identifying the product and quantity that is being provided.
   2. Obtain Owner's signature on the receipt.
   3. Send original receipt to Owner Project Manager and include a copy of the receipt in the Warranties, Bonds, Extra Stock, and Permits manual.

1.8 SUBSTANTIAL COMPLETION

A. Substantial Completion is defined in the General Conditions. Before requesting A/E's review for certification of Substantial Completion, complete the following, and provide a letter of request for Substantial Completion. List exceptions in the request.
   1. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Advise the Owner of pending insurance changeover requirements.
   3. Make final changeover of permanent locks and transmit keys, and a list identifying each key to the Owner. The list is a receipt to be signed by the Owner with a copy delivered to Owner Project Manager and a copy placed in the Operation and Maintenance Manual hardware section. Advise the Owner's personnel of changeover in security provisions.
   4. Complete startup testing and commissioning of systems; submit Balancing Logs.
   5. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
   6. Complete final clean-up requirements.
   7. Return any and all security badges and keys that were issued to the Contractor

1.9 FINAL ACCEPTANCE

A. Before requesting certification of Final Acceptance and final payment, complete the following. Submit all of the following items together – no partial submittals will be accepted.
   1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
   2. Submit an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Owner of property might in any way be responsible, have been paid or otherwise satisfied. (AIA Document G706 or equivalent).

3. Submit Contractor's Affidavit of Release of Liens (AIA Document G706A or equivalent): If any liens are filed and cause the Owner to employ the services of any attorneys, the cost of the services will be deducted from the retainage.
4. Submit a letter from the Contractor's Bonding Company addressed to Owner and submitted to A/E approving release of final payment and waiving submittal of final receipts as well as a statement confirming the extension of the Bond for the one-year warranty period. Final receipts from all subcontractors and material and equipment suppliers shall be furnished to the A/E by the Contractor if the Surety does not waive this requirement.
5. Submit a copy of the A/E's final review list ("punch list") of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, identifying the name and company of the individual who confirmed completion of each item, and date when confirmation inspection was performed.
6. Submit Consent of Surety to Final Payment on an AIA Form G707 or equivalent.
7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
8. Submit State Department of Labor and Industries Affidavit of Wages Paid (State Form 9843) approved by Department of Labor and Industries for all trades that have performed work on the Project.
9. Submit certified Statement indicating asbestos or lead containing material were not utilized or incorporated on the Project provided by Contractor under this contract.
10. Submit final As-Built Documents.
11. Submit final Operation and Maintenance Manuals.
12. Submit final Warranties, Bonds, and Permit Manual.
13. Submit keys and keying schedule.
14. Submit a list of all paints used, manufacturer, and formulation for each.
15. Submit evidence of completion of commissioning of designated building systems.
16. Submit evidence of completion of Owner's training for all designated systems and videotape(s).
17. Submit evidence of compliance with requirements of governing Authorities.
    a. Certificate of Occupancy, if not submitted at time of Substantial Completion. (Note: Certificate of Occupancy is required to be submitted with Substantial Completion Request unless otherwise exempted by Owner in writing.)
    b. Certificates of Inspection
        1) Mechanical Work.
        2) Plumbing Work.
        3) Fire Suppression Work.
        4) Electrical Work.
    c. Others as required by Regulatory Agencies.
18. Submit all other required close-out documents.

1.10 REVIEW FEES

A. The A/E and its consultants will complete one initial and one final project review of the Work at Substantial Completion and at Final Acceptance to establish and verify completion of punch list work. Should it be necessary for the A/E or its consultants to perform any additional reviews due to failure of Work to comply with completion status claimed by the Contractor, A/E and its consultants shall be compensated by the Contractor for each additional review required until the Work is satisfactorily completed. This compensation shall be at the A/E's and its consultants standard hourly billing rate at the time of the review, and expenses associated with the visit. Compensation by the Contractor will be through a deductive change order to the Contractor's contract.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 77 00

SECTION 01 78 00 – CLOSEOUT SUBMITTALS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Project Record Document submittal.

B. Operation and Maintenance manuals.

C. Warranties, Bonds, Extra Stock, and Permits manuals.

1.3 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment. The following submittal procedure shall occur prior to Final Acceptance.
   1. Submit original copy of as-builts (drawings & specifications) to A/E for review.
   2. Compile and organize any drawings or schedules in the Project Manual onto sheets of the same size as the Contract Drawings and submit with other record documents.
   3. Contractor will be notified within 15 work days if the submitted documents are acceptable.
   4. Should the submittal be unacceptable for any reason, the Contractor shall make requested modifications and resubmit to the A/E. Continue to resubmit as necessary until the submittal is acceptable.
   5. Upon acceptance of the submittal, A/E will within 30 work days incorporate the Contractor's as-builts into the A/E's original Contract Documents.
   6. The A/E will return the specifications, the Contractor's original as-builts, and provide the Contractor with an AutoCAD disk.
   7. The Contractor shall use the AutoCAD disk to obtain at its cost the following from a printer of its choice:
      a. Electrostatic reproducibles made of each sheet of the Contract Drawings and compilation sheets at its original size, and any other drawings the Contractor may have provided as as-built drawings. The Contractor shall stamp each reproducible sheet as "As-Built", date, and sign each sheet.
      b. After item a. is completed, for each electrostatic reproducible, the Contractor shall have three sets of prints made on bond paper (or blue/black line prints at Contractor's option) and edge bound.

8. The Contractor shall submit to the Owner the electrostatic reproducibles, 3 sets of prints, record specifications, and Contractor's original marked-up as-builts.

B. Operation and Maintenance Data:
1. Submit two (2) copies of preliminary Operating and Maintenance Manuals for operational and non-operational equipment for review by A/E. Submit for each system upon attaining 50% system completion, together with respective training synopsis; refer to Section 01 77 00. Upon review, A/E will return one copy with comments.
2. Submit 1 copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with A/E comments. Revise content of all document sets as required prior to final submission.
3. Within 10 days following receipt of the A/E approval and comments, and prior to Owner training, Contractor shall prepare and transmit to the A/E three (3) final copies of each of the above manuals.

C. Warranties, Bonds, Extra Stock, and Permits:
1. Obtain and assemble executed certificates, warranties, bonds, receipts for extra stock, permits signed by any authorities having jurisdiction, and any required service and maintenance contracts from the respective manufacturer's, suppliers, and Subcontractors. These may be tabbed in the front of the General Operation and Maintenance Manual provided they do not over-fill the binder(s).
2. Verify that documents are in proper form, contain full information, and are notarized.
3. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.
4. Co-execute submittals when required.
5. Submittal of warranties, bonds, extra stock and permit manual to match submittal requirements of Operation and Maintenance Manual.
6. Provide Table of Contents neatly typed, in complete and orderly sequence. Include complete information for each of the following:
    a. Product or work item;
    b. Firm, with name of principal, address, and telephone number;
    c. Scope;
    d. Date of beginning of warranty or service and maintenance contract;
    e. Duration of warranty or service maintenance contract;
    f. Proper procedure in case of failure;
    g. Instances which might affect validity of warranty or bond; and
    h. Contractor, name or responsible principal, address, and telephone number.

7. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
8. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
9. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.
10. Furnish two (2) executed copies, except furnish three (3) additional confirmed copies required for inclusion into Operation & Maintenance manuals.

PART 2 PRODUCTS

2.1 PROJECT RECORD DOCUMENTS

A. Project Record Documents include the following:
1. Marked-up copies of Contract Drawings.
2. Marked-up copies of Project Manuals (Specifications and Detail Book, as applicable), all volumes.
3. Addenda.
4. Reviewed and marked-up copies of shop drawings and product data.
5. Newly prepared drawings.
6. Change Orders, RFIs and other modifications to the Contract issued in printed form during construction.
7. Architect's Clarifications and Proposal Request with all supporting documentation.
8. Construction Change Directives.
9. Record Samples.
10. Field records for variable and concealed conditions.
11. Record information on Work that is recorded only schematically.
12. Manufacturer's instruction for assembly, installation, and adjusting.
13. Other miscellaneous record documents as listed below and applicable.
    a. Field records on excavations and foundations.
    b. Field records on underground construction and similar work.
    c. Survey showing locations and elevations of underground lines.
    d. Invert elevations of drainage piping.
    e. Surveys establishing building lines and levels.
    f. Authorized measurements utilizing unit prices or allowances.
    g. Records of plant treatment.
    h. Ambient and substrate condition tests.
    i. Certifications received in lieu of labels on bulk products.
    j. Batch mixing and bulk delivery records.
    k. Testing and qualification of tradesmen.
    l. Documented qualification of installation firms and/or personnel.

m. Load and performance testing.
n. Inspections and certifications by governing authorities.
o. Leakage and water-penetration tests.
p. Fire-resistance and flame-spread test results.
q. Final inspection and correction procedures.

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

A. Maintenance of Documents and Samples:
1. Store and maintain in field office apart from the Contract Documents used for construction, one complete set of record documents and samples which are used to record as-built conditions.
2. Do not use Project Record Documents for construction purposes; protect from deterioration and loss in a secure fire-resistant location. Maintain record documents in good order and in a clean, dry, legible condition.
3. Make record documents and samples available at all times for review by A/E and Owner's Representatives.
4. Record actual revisions to the Work concurrent with construction progress.
5. Ensure entries are complete and accurate, enabling future reference by Owner.
a. As specified in Section 01 31 19, following each monthly progress schedule meeting, Contractor shall meet with all major subcontractors whose work is in progress at the site, including but not limited to mechanical, plumbing, electrical, security, fire protection, civil, and as otherwise designated, to review all "as-built" revisions on the day-by-day working set of "Project Record Copy" and verify installed record information from the previous month is properly recorded on the day-by-day "Project Record Copy", with all revisions and pertinent information clearly indicated.

B. Record Drawings and Shop Drawings: A clean, undamaged set of Contract Drawings including coordination drawings and shop drawings shall be kept at the job site as as-built record documents. Record "as-built" drawings shall be comprised of all sheets contained in the Contract Drawings, as well as all special equipment or systems drawings.
1. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawings that show conditions fully and accurately. Where shop drawings, RFI's or other communication record are used to identify a change, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date. Items required to be marked include, but are not limited to, the following:
a. Indicate field changes of dimension and detail.
b. RFIs.

c. Depths of foundations below the first floor.
d. Horizontal and vertical measurements of underground services and utilities, referenced to the building or other permanent construction.
e. Note changes of directions and locations, by dimensions and elevations, as utilities are actually installed.
f. Duct size and routing. Indicated locations of mechanical dampers, valves, reheat boxes, cleanouts, and other items that require maintenance.
g. Show measured locations of construction-concealed internal utilities and appurtenances referenced to visible and accessible features of the structure.
h. Record accurate locations of piping, valves, traps, dampers, duct work, equipment, and the like.
i. Revisions to electrical circuitry.
j. Indicate details not on original Contract drawings.
k. “X-out” conditions not constructed and appropriately annotate "not constructed" to convey the actual "as constructed" condition.

2. Mark record sets in a clear, legible manner, using red ink (no pencils); use other colors to distinguish between variations in separate categories of the work. Use ‘whiteout’ to erase errors.
3. Mark new information that is important to Owner, but which was not shown on Contract Documents or Shop Drawings.
4. Show addenda items, change orders, RFI, or other means of communication used in the construction process.
5. Show and date revisions to drawings with a "cloud" drawn around the revision.
6. Organize record drawing sheets in manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. Where shop drawings, RFI’s or other communication record are used as a reference, include a copy of them as part of the record drawings.

C. Shop Drawings
1. Maintain as record documents; legibly annotate to record changes made after review.
2. Include subcontractor reproducible shop drawings for all special equipment including as a minimum where applicable to the project, ductwork layout, fire sprinkler system layout, temperature control system, fire alarm system, intrusion alarm system, communications systems, data systems, detention security systems and others as deemed appropriate. Record Drawing shop drawings shall be easily reproducible; i.e., on mylar or of standard copy machine size, as appropriate and approved.

D. Project Manual(s): During the construction period, maintain one complete copy of the Project Manual(s), including Specifications, Detail Book(s), addenda, and one copy of other written construction documents, such as Change Orders and RFI's issued in printed form during construction.
1. Legibly mark these documents in red ink to show substantial variations in actual work performed in comparison with the text of

the specification and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data. Record at each product section description of actual products installed, including the following:

a. Manufacturer's name and product model and number.
b. Product substitutions or alternates utilized.
c. Changes made by Addenda and modifications.

2. Mark Detail Book schedules, details, etc., to indicate the actual installation where the installation varies from that indicated in the Detail Book and modifications issued. Complete information in accordance with Paragraph 3.1C below for all detail drawings.
3. Each prime contractor (Subcontractor) is responsible for marking up Sections that contain its own Work.
   a. General Contractor shall be responsible for collecting marked-up record Sections from each of the other prime contractors. General Contractor shall also be responsible for collating these Sections in proper numeric order with its own Sections to form a complete set of record Specifications.
   b. General Contractor shall be responsible for submitting the complete set of record Specifications as specified.

E. Record Product Data
1. Maintain one copy of each product data submittal, and mark-up variations in actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation.
2. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and project manuals.
3. Note related Change Orders and mark-up of record Drawings, where applicable.
4. Upon completion of mark-up, submit complete set to Architect for Owner's records.
5. Where record Product Data is required as part of maintenance manuals, submit markedup Product Data as an insert in the manual instead of submittal as record Product Data.
6. Each prime contractor (Subcontractor) shall be responsible for marking up and submitting record Product Data for its own Work.
7. Insofar as possible, insert record product data in individual sub-sections of O&M Manuals. Refer to 3.5 below.

F. Record Sample Submittal: Immediately prior to date(s) of substantial completion, Architect (and including Owner's personnel where desired) will meet with Contractor at site, and will determine which (if any) of submitted samples maintained by Contractor during progress of the work are to be transmitted to Owner for record purposes. Comply with Architect's instructions for packaging, identification marking, and delivery to Owner's sample storage place.

G. Miscellaneous Record Submittals: Refer to Paragraph 2.1A.13 above for listing of miscellaneous record documents and to other Sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to date of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect for Owner's records.

3.2 OPERATION AND MAINTENANCE DATA – GENERAL

A. General: For all operational equipment installed, Contractor shall submit operation and maintenance documents in manuals as specified herein. Separate sets of manuals shall be prepared for Divisions 21 through 25 and Divisions 26 through 28 equipment. For non- Division 21 through 28 equipment, the manuals shall contain both operational and nonoperational items and equipment.

B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.3 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. Content for Operational Equipment.
   1. Product Data.
      a. Compile product data and related information for Owner’s maintenance and operation. All manufacturer literature shall be original printed matter; photocopies, printouts from websites or other non-original reproductions are not acceptable.
      b. Product data shall contain detailed information relative to the following:
         1) Description of unit or system, and component parts.
         2) Equipment functions, normal operating characteristics, and limiting conditions.
         3) Assembly, installation, alignment, adjustment and checking instructions.
         4) Operating instructions and sequences for start-up, break-in, routine and normal operation, regulation and control, shutdown, and emergency conditions.

Include control diagrams and sequence of operation by controls manufacturer.

5) Routine procedures and guide for preventative maintenance and trouble shooting, including a schedule of recommended checks; disassembly, repair, and reassembly instructions.
6) Detailed servicing and lubrication schedule. Include list of lubricants required.
7) Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
8) Complete nomenclature and model number of replaceable parts. Include with list manufacturer’s current prices and recommended quantities to be maintained in storage.
9) Safety precautions and safety features.
10) Outline, cross-section and assembly drawings, engineering data, and color coded wiring diagrams as installed.
11) Test data and performance curves.
12) Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
13) Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
14) Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
15) Test and balancing reports.

c. Include only sheet pertinent to specific product.
d. Annotate each sheet to:
   1) Clearly identify specific product or part installed.
   2) Clearly identify data applicable to installation.
e. Delete references to inapplicable information.

2. Drawings.
   a. Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems.
   b. Coordinate drawings with information in Project Record Documents to ensure correct illustration of completed installation.
   c. Do not use Project Record Documents as maintenance drawings.
3. Supplement product/installation data with written text.
   a. Organize in consistent format under separate headings for different procedures.
   b. Provide logical sequence of installations for each procedure.
4. Special Mechanical Subcontractor Requirements: Comply with Divisions 20 though 25 requirements.
5. Special Electrical Subcontractor Requirements: Comply with Divisions 26 through 28 requirements.

3.4 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For all A/E non-operational products, applied materials and finish items installed, including but not limited to, floor coverings such as vinyl composition tile, acoustical ceiling panels, marker boards, etc., Contractor shall submit maintenance information as specified herein. Provide detailed information relative to the following:
   1. Manufacture's data, giving full information on products.
      a. Catalog number, size, and composition.
      b. Color and texture designations.
      c. Information required for re-ordering special manufactured products.
   2. Instructions for care and maintenance.
      a. Manufacturer's recommendation for types of cleaning agents and methods.
      b. Cautions against cleaning agents and methods, which are detrimental to the product.
      c. Recommended schedule for cleaning and maintenance.
      d. Instructions and recommendations for repair of finish.
   3. Moisture protection and weather-exposed products.
      a. Include product data listing applicable reference standards, chemical composition, and details of installation.
      b. Provide recommendations for inspections, maintenance, and repair.

B. For additional requirements for maintenance data, see respective Specification Sections.

C. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.5 OPERATION AND MAINTENANCE MANUALS

A. Prepare instructions and data by personnel experienced in maintenance and operation of described products. Prepare data in the form of an instructional manual.

B. Format of Operation and Maintenance Manuals
   1. Binders
      a. Commercial quality, stiff cover, metal-hinged 8-1/2 x 11 inch three D side ring binders with durable and cleanable plastic covers. Binders shall be Wilson Jones #344 Series or equivalent as approved by the A/E.
      b. Provide suitable ring size for content with a 1-inch minimum, up to 3-inch maximum, range.
      c. When multiple binders are used, correlate data into related consistent groupings.
   2. Cover and Spine: Identify the cover and spine of each volume with typed or printed title of the project, project number, and the words OPERATION AND MAINTENANCE INSTRUCTIONS.
   3. For Contractor produced pages, paper shall be 8-1/2" x 11", white, 20 pound minimum.
   4. Provide tabbed dividers for each separate product and system,

with typed description of product and major component parts of equipment.

5. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
6. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
7. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
8. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   a. Part 1: Directory, listing names, addresses, and telephone numbers of A/E, A/E Consultants, Contractor, Subcontractors, and major equipment suppliers.
   b. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      1) Significant design criteria.
      2) List of equipment.
      3) Parts list for each component.
      4) Operating instructions.
      5) Maintenance instructions for equipment and systems.
      6) Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
   c. Part 3: Project documents and certificates, including the following:
      1) Shop drawings and manufacturer’s printed product data.
      2) Air and water balance reports.
      3) Certificates.
      4) Photocopies of warranties and bonds.
      5) Materials Safety Data Sheets (MSDS) for each product used on the Project.
9. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.
10. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.6 WARRANTIES, BONDS, AND PERMIT MANUAL

A. Project Warranty – General:
   1. If, within one (1) year after the Date of Substantial Completion of the Work, or designated portion thereof, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor, and where applicable,

his subcontractor that portion of the work, shall correct it promptly after receipt of a written notice from the Owner or Architect to do so. This obligation shall survive Termination of the Contract. The Owner will give such notice promptly after discovery of the condition.

B. Categories Of Specific Warranties
1. Warranties on the work are in several categories, including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in Sections of Divisions 02 through 28 of these specifications.
a. Special Project Warranty (Guarantee): A warranty specifically written and signed by Contractor for a defined portion of the work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor.
b. Specified Product Warranty: A warranty which is required by contract documents, to be provided for a manufactured product incorporated into the work; regardless of whether manufacturer has published warranty without regard for specific incorporation of product into the work, or has written and executed warranty as a direct result of contract document requirements.
c. Coincidental Product Warranty: A warranty which is not specifically required by contract documents (other than as specified in this section); but which is available on a product incorporated into the work, by virtue of the fact that manufacturer of product has published warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of warranty.
2. Refer to individual sections of Divisions 02 through 28 for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).

C. Disclaimer and Limitations: Manufacturer’s disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer’ s disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

D. General Limitations
1. It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources.
2. Except as otherwise indicated, specific warranties do not cover failures in the work which result from:
1) Unusual and abnormal phenomena of the elements,

2) The Owner's misuse, maltreatment or improper maintenance of the work,
3) Vandalism after time of substantial completion, or
4) Insurrection or acts of aggression including war.

E. Related Damages & Losses
1. General: In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.
2. Consequential Damages: Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract) which occurs as a result of failure of warranted work.

F. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

G. Reinstatement Of Warranty Period: Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for the time period starting on the date of acceptance of replaced or restored work and ending upon date original warranty would have expired if there had been no failure, with an equitable adjustment for depreciation.

H. Replacement Cost, Obligations: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. Contractor shall be responsible for the cost of replacing or restoring defective Work regardless of whether the Owner has benefited from use of the Work through a portion of anticipated useful service life.

I. Owner’s Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, right, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

J. Rejection Of Warranties: Owner reserves the right, at time of final acceptance or thereafter, to reject coincidental product warranties submitted by the Contractor, which in opinion of Owner tend to detract from or confuse interpretation of requirements of Contract Documents.

K. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for materials or units of work for project where a special project warranty, specified product warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.

L. Co-execute warranties when required. Provide originals of each for inclusion in each operation and maintenance manual.

M. Retain warranties and bonds until time specified for submittal.

N. SPECIFIC WARRANTY FORMS
1. Where a special project warranty (guarantee) or specified product warranty is required, prepare a written document to contain terms and appropriate identification, ready for execution by required parties.
2. Submit draft to Owner (through Architect) for approval prior to final executions.
3. Form of Warranty to state the following:

I (We), (insert Contractor name), certify (insert name of trade or portion of work being guaranteed) installed by (insert name of appropriate subcontractor) on (insert the name of the project and project number) located in Sedro-Woolley, WA, is performed in strict accordance with Contract Documents. Further, I (we) guarantee this work to be (watertight, without lead, other, etc.) caused by defects in materials and workmanship, for (fill in specific required guarantee period) years from (date of substantial completion), and will repair, or replace, without delay, any defects in materials and workmanship discovered within warranty period.

Sincerely,

(Name of Contractor/responsible principal/address/telephone number)
Signed by Owner, Partner, or other person authorized to commit firm.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 78 00

WATERTIGHTNESS WARRANTY

PROJECT NUMBER: _____

DATE OF SUBSTANTIAL COMPLETION: _____

OWNER: _____

BUILDING: _____

BUILDING ADDRESS: _____

_____

CONTRACTOR: _____

CONTRACTOR’S ADDRESS: _____

APPLICATION CONTRACTOR: _____

APPLICATION CONTRACTOR’S ADDRESS: _____

_____

TYPE OF PRODUCT(S) AND WARRANTY PERIOD: _____

_____

APPLICATION CONTRACTOR: _____

APPLICATION CONTRACTOR’S ADDRESS: _____

TYPE OF PRODUCT(S) AND WARRANTY PERIOD: _____

_____

PRODUCT MANUFACTURER: _____

PRODUCT MANUFACTURER’S ADDRESS: _____

_____

TYPE OF PRODUCT(S) AND WARRANTY PERIOD: _____

_____

PRODUCT MANUFACTURER: _____

PRODUCT MANUFACTURER’S ADDRESS: _____

_____

TYPE OF PRODUCT(S) AND WARRANTY PERIOD: _____

The Contractor, Product Manufacture(s), and approved Application Contractor(s) warrant to the above named Owner that subject to the terms, conditions, and limitations stated herein, the PRODUCT(S) listed above will remain in a watertight condition for the periods identified.

WATERTIGHTNESS WARRANTY

TERMS, CONDITIONS, AND LIMITATIONS

A. The Warranty of the Contractor, Product Manufacturer(s), and Application Contractor(s) shall include the cost of any repairs they are responsible for, including removing and reinstalling any and all overburden that may cover PRODUCT(S), and necessary to maintain the Warranty. Responsibility and assignment of costs associated with the repairs and removal and replacement of overburden are solely the responsibility of the warrantors. In no event, shall disputes among the liable parties impact the timely repair or warranty obligations.

B. The Owner shall provide the Contractor written notice, delivered within 30 days of the discovery by a representative of the Owner with the duty to report such events, of any noticed breech of watertightness. Unless apparent at that time what the cause of the breech is, the notice is only to make the Contractor aware of the breech, not its source, which may include but is not limited to flashing PRODUCT(S), sealant PRODUCT(S), roofing membrane PRODUCT(S), other Contractor installed material, or chemical damage caused by interaction of Contractor installed products. The Contractor is responsible under its Contract to investigate the breech to determine its cause. The Contractor, Application Contractor(s), Product Manufacturer(s), and a representative of the Owner, hereinafter called the investigation team, shall be convened to agree on the investigation procedures. All costs, including the initial investigation, which may include removal and replacement of any overburden, are to be borne by the party or parties responsible for the breech. If a source for the breech can not be determined, and testing specific to the identified breech area determines that the Contractor's work at the breech area is not at fault, the Owner will reimburse the Contractor for actual costs, including reasonable profit. If at any time a breech source is identified that may relate to the Contractor's tested area, the investigation team shall reconvene and investigation procedures determined. If at any time it is found that a remote breech source caused by the Contractor's work contributes to the breech location originally tested, the Contractor shall reimburse the Owner for all payments made to the Contractor for the breech.

C. During the term of the warranty, agents or employees of the Contractor, Product Manufacturer(s), and Application Contractor(s) shall have free access to inspect the PRODUCT(S) at any time during regular business hours.

D. The Contractor, Product Manufacturer(s), and Application Contractor(s), shall:

1. Assume no liability for damage to:

    a. Interior building contents thereof;

    b. Any other property or person; and

    c. Incidental or consequential damages including loss of income, loss of time, lost sales, liability Owner has with respect to any other person or for any type or form of consequential or incidental or economic loss.

2. Assume no liability for any failure of the PRODUCT(S) resulting from:

    a. Natural or manmade disasters including but not limited to windstorms, gales, hail, floods, hurricanes, lightening, tornadoes, earthquakes, earth tremors, fires, vandalism, and mischief;

    b. Defects of surfaces that have been brought to the Owner's attention which are not Contractor installed and do not have an approved PRODUCT(S) application process;

c. Failures including, but not limited to, hidden work that pre-dates Contractor work, settling or shifting of the structure, or movement, cracking or deflection of the surfaces or supports which the PRODUCT(S) are not designed to accommodate.

d. The erection or construction of any additional installation in, on, or through the PRODUCT(S) after Substantial Completion, unless done in the manner prescribed and accepted by the PRODUCT(S) manufacturer;

e. Failure of the Owner to use reasonable care in maintaining the PRODUCT(S) in accordance with such instructions of the Product Manufacturer as may be in effect at the time of the installation;

f. Leaks caused by water entering from structures, components and/or systems notinstalled by the Contractor which are adjacent to the PRODUCT(S), or which cause deterioration in any component of the installed system to leak;

g. Excessive traffic or storage of materials related to direct Owner activities; and

h. Repairs or other applications to or on the PRODUCT(S) by the Owner after Substantial Completion, unless done in the manner prescribed and accepted by the PRODUCT(S) manufacturer.

E. Failure of any of the warrantors at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.

F. This Warranty shall accrue only to the Owner named herein.

CONTRACTOR

Signature:_____ Date:_____

Printed Name:_____

APPLICATION CONTRACTOR

Signature:_____ Date:_____

Printed Name:_____

APPLICATION CONTRACTOR

Signature:_____ Date:_____

Printed Name:_____

PRODUCT MANUFACTURER

Signature:_____ Date:_____

Printed Name:_____

PRODUCT MANUFACTURER

Signature:_____ Date:_____

Printed Name:_____

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SECTION 01 78 39 – MATERIAL COLOR & FINISH

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. For specifications of finish materials except for color and pattern, see individual technical specifications.

1.2 SCOPE OF WORK

A. This schedule lists selected color and finish standards for materials specified elsewhere for the project. Identification of a selection by reference to a manufacturer's product is merely an expedient means of communication; in fact, it is possible that the example used in this listing is excluded by failure to meet specifications in technical sections hereafter.

1.3 COLOR NOT SPECIFIED

A. Unless specified otherwise, paint grilles, electrical accessory and other panels in walls with wall color.

1.4 APPROVALS

A. In the following list where a single manufacturer's trade name is used to define a color finish, the listed name is used as a standard for approval and similar items manufactured by others will be accepted upon approval of match with listed standards. The final approval of colors and patterns will be made on the basis of samples submitted, and decisions as to the degree of allowable variation between competitive products and the listed standard will remain completely the Architect's.

1.5 MATERIAL COLOR AND FINISH STANDARDS LIST

A. ROOF: LOCATION AT BUILDINGS 22 AND 25
Item: Asphalt Laminated Shingle
Mfgr: Malarkey
Style: 273 Legacy – Limited Lifetime Warranty
Color: Antique Brown

B. METAL: LOCATION AT BUILDINGS 22 and 25
Item: Gutters and Downspouts
Mfgr: AEP Span (basis-of-design), Taylor Metals, Nu-Ray Metals
Style: Profiles to match existing
Color: Weathered Copper (or equivalent color from Taylor Metals or Nu-Ray)

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 78 39

SECTION 02 41 13 – SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Cutting and Patching: Section 01 73 29

1.2 REFERENCES

A. American National Standards Institute (ANSI).
1. A10.6 "American National Standard Safety Requirements for Demolition."

B. NFPA 241.

1.2 SUBMITTALS

A. Detailed information, prior to demolition commencement, on methods, and sequencing.

B. Inventory of any items to be salvaged, prior to start of demolition.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with applicable rules, codes, regulations, and safety orders of all public agencies having jurisdiction.

1.4 SITE CONDITIONS

A. Preplan demolition Work for minimal interruptions or disruptions to Owner's ongoing operations.

B. Provide dirt and dust barriers, debris containers, removal routes, and disposal to protect areas utilized by Owner's personnel.

C. Where existing unidentified utilities, structures or services are discovered submit information for resolution prior to proceeding.

D. Prohibited from use are any form of explosives.

E. Work to be demolished that has been tested and contains material believed to contain asbestos, lead paint, or other hazardous materials. Should Contractor encounter materials suspected to be hazardous and not identified as such, the Contractor shall stop work in that area and notify the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Carefully remove items marked or designated for salvage or reuse and store as directed.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas affected by Work of this Section and verify that necessary shoring and other required protection is in place.

B. Verify that utilities have been disconnected and capped before starting selective demolition operations.

C. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

D. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

E. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect and Owner Representative.

3.2 PREPARATION

A. Provide protection as necessary and in accordance with applicable regulations.

B. Verify existing utility services to remain in operation, cooperate with Owner in scheduling Work so there will be a minimum of interference. Prearrange utility shutdown or temporary interruption with Owner prior to Work commencement.

C. Notify Utility Providers having service connections within the building.

D. Contact municipal and regulatory agencies affected by and interested in the Work. Secure necessary information and permits required, and make detailed arrangements for smooth safe prosecution of the Work.

E. Cover all existing floor, wall and ceiling registers, grilles and diffusers for supply, return and exhaust air prior to demolition and any possible abatement activities.

3.3 DEMOLITION – GENERAL

A. Perform Work in accordance with ANSI A10.6, and regulatory requirements.

B. Contractor shall be solely responsible for safety, adequacy and satisfactory performance of methods and means employed.

C. Sequence of removal of concrete, masonry, and similar building elements shall be such that structural integrity of building is maintained at all times.

D. Legally dispose of demolition materials off site. Location of disposal site and length of haul are the Contractor's responsibility.

E. Carefully remove salvage items to be retained by Owner and place in an area designated by Owner.

F. Remove items scheduled to be reused and store as directed.

3.4 SELECTIVE DEMOLITION PROCEEDURES

A. Concrete and Asphaltic Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Lath & Plaster: Demolish in sections. Cut walls at full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove wall cleanly between saw cuts.

C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

F. Roofing and Flashing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Division 7 for new roofing requirements.
   1. Remove existing roof membrane, flashings, copings, and roof accessories.
   2. Remove existing roofing system down to substrate.

G. Wood Siding and Framing: Demolish in small sections, carefully with straight line cuts to wood components. Block and support areas supported by removed framing components as described on structural drawings or per framing standards as described in IBC Chapter 23.

3.5 CLEANING

A. Provide cleaning during demolition as necessary and to the acceptance of the Architect.

B. Leave all portions of demolition area in a level, safe, and sanitary condition acceptable to public authorities and the Architect.

END OF SECTION 02 41 13

SECTION 02 82 13 – ROOF INSPECTION SURVEY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Limited Hazardous Materials Survey Report

Port of Skagit SWIFT Center
Building 22 and 25 Roof Replacement
Northern State Hospital Campus
Sedro-Woolley, Washington
By PBS Engineering and Environmental, Inc., dated May 26, 2022

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 02 82 13

Limited Hazardous Materials Survey Report

Port of Skagit SWIFT Center
Building 22 and 25 Roof Replacement
Northern State Hospital Campus
Sedro-Woolley, Washington

Prepared for:
RMC Architects
1223 Railroad Avenue
Bellingham, WA 98225

May 26, 2022
PBS Project No. 41140.019

PBS
214 EAST GALER STREET
SUITE 300
SEATTLE, WA 98102
206.233.9639 MAIN
866.727.0140 FAX
PBSUSA.COM

TABLE OF CONTENTS

APPENDICES

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1 INTRODUCTION

1.1 Project Background

PBS Engineering and Environmental, Inc. (PBS) performed a hazardous materials survey of Building 22 and Building 25 roofs at Port of Skagit SWIFT Center at the Northern State Hospital Campus in Sedro-Woolley, Washington in conjunction with the planned re-roof projects. The intent of this investigation is to ensure compliance with applicable regulatory requirements that a "good faith inspection" for ACMs be performed prior to renovation and restoration activities.

At the request of RMC Architects, all accessible areas associated with the project were inspected for the presence of asbestos-containing materials (ACMs) and lead-containing paint (LCP). PBS based its survey on work scope areas provided to PBS by RMC Architects.

1.2 Building Descriptions

The Building 22 roof consists of a pitched wood deck with 3-tab shingles with concrete arches at each of the main entrances. Exterior walls consist of concrete aggregate.

The Building 25 roof consists of a pitched wood deck with 3-tab shingles. Exterior walls consist of concrete with texture.

1.3 Survey Process

Accessible areas included in the project scope were inspected by AHERA-certified Building Inspectors Janet Murphy (Cert. No. IMR Exp. 03/23/2023) on May 18, 2022. PBS endeavored to inspect all accessible areas of the scope of work. Inaccessible areas consist of those requiring selective demolition, fall protection, or confined space entry protocols to gain access.

When observed, suspect materials were sampled. All samples were assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test (NVLAP #201057-0) under chain-of-custody protocols. Samples were analyzed according to EPA Method 600R-93/116 using Polarized Light Microscopy (PLM), which has a reliable limit of quantification of 1% asbestos by volume.

PBS endeavored to determine the presence and estimate the condition of suspect materials in all inaccessible areas included in the scope of work. While PBS has endeavored to identify the ACM that may be found in concealed locations, additional unidentified ACM may exist.

2 FINDINGS

2.1 Asbestos-Containing Materials (ACMs)

The following materials were determined to contain **greater than 1% asbestos** as part of this investigation.

- Gray sealant on concrete arches over entry doors – Building 22 (approx. 30 SF)

The following materials sampled and found not to contain detectable concentrations of asbestos as part of this investigation.

- Composite shingles and felt paper – Building 22 and Building 25
- Exterior concrete wall and texture – Building 22 and Building 25

Refer to Appendix A for an inventory of asbestos bulk samples collected and associated laboratory analysis.

2.2 Lead-Containing Components

Seven (7) representative painted coatings were sampled for lead content. The samples were assigned unique identification numbers and transmitted to NVL Laboratories, Inc. (AIHA IH #101748) in Seattle, Washington under chain-of-custody protocols for analysis using Flame Atomic Absorption.

Lead was detected in the following painted coatings.

- Building 22 brown paint – exterior concrete arch – 12% lead
- Building 22 brown paint - metal gutter – 1.1% lead
- Building 22 yellow paint – exterior concrete wall – 0.53% lead
- Building 22 tan – wood soffit – 26% lead.

The following painted coatings were sampled and determined **not** to contain detectable lead.

- Building 25 white paint – exterior concrete walls
- Building 25 brown paint – wood eave
- Building 25 brown paint – metal gutter

Refer to Appendix B for an inventory of paint samples collected and associated laboratory analysis.

3 RECOMMENDATIONS

3.1 Asbestos-Containing Materials (ACMs)

PBS recommends that all ACMs and presumed-ACMs that may be impacted by planned renovations be removed prior to construction activities, or impacted, only by a qualified Washington State licensed asbestos abatement contractor according to applicable local, state and federal regulations.

The possibility exists that suspect ACM may be present at concealed locations in wall and ceiling cavities, within HVAC equipment and potentially in other select concealed areas. These may include, but are not limited to waterproofing membrane, vapor barriers, internal gasketing, mastics, caulking, and sealants on HVAC equipment, construction adhesives, electrical insulators, below grade pipe covering and insulation.

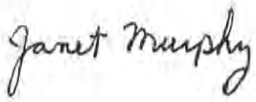
In the event that suspect ACMs not included in this report are encountered during construction, contractors should stop work immediately and inform the Owner promptly for confirmation testing. All untested materials should be presumed asbestos-containing or tested for asbestos content prior to impact.

3.2 Lead-Containing Components

Representative exterior painted coatings were found to contain lead. Impact of painted surfaces with detectable concentrations of lead requires construction activities to be performed according to Washington Labor and Industries regulations for Lead in Construction. Impact of painted surfaces with detectable concentrations of metals in building materials and products requires construction activities to be performed according to Washington Labor and Industries regulations for Lead in Construction (WAC 296-155-176).

Painted coatings may exist in inaccessible areas of the work area or in secondary coatings. Any previously unidentified painted coatings not sampled should be considered lead containing until sampled and proven otherwise. Dust control and housekeeping is crucial in preventing worker and occupant exposures.

Report prepared by:



Janet Murphy
AHERA Building Inspector
Cert. # IMR – 22 – 8300A Exp. 03/23/2023

Report reviewed by: RH

APPENDIX A

PLM Bulk Sampling Information

PLM Bulk Sample Inventory
PLM Bulk Sample Laboratory Data Sheets
PLM Bulk Sample Chain of Custody Documentation

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
41140.019 -01	Textured Concrete	West Exterior	Layer 1: Gray hard sandy/brittle material	NAD	SAT
41140.019 -02	Textured Concrete	South Exterior	Layer 1: Gray hard sandy/brittle material	NAD	SAT
41140.019 -03	Textured Concrete	East Exterior	Layer 1: Gray hard sandy/brittle material	NAD	SAT
41140.019 -04	Composite Shingle and Felt Paper	Building 22-2111	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic material	NAD NAD	SAT SAT
41140.019 -05	Composite Shingle and Felt Paper	Building 22-2085	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic fibrous material	NAD NAD	SAT SAT
41140.019 -06	Gray Sealant	Building 22-2111 at Arch and Shingles	Layer 1: Black/gray asphaltic material	3% Chrysotile	SAT
41140.019 -07	Gray Sealant	Building 22-2085 at Arch and Shingles	Layer 1: Black/gray asphaltic material	3% Chrysotile	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
41140.019 -01	Composite Shingle and Felt Paper	Building 25 Roof	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic fibrous material	NAD NAD	SAT
41140.019 -02	Texture on Concrete	South West Exit Wall	Layer 1: Beige sandy/brittle material with paint	NAD	SAT
41140.019 -03	Texture on Concrete	North East Exit Wall	Layer 1: Beige sandy/brittle material with paint	NAD	SAT
41140.019 -04	Texture on Concrete	North Exit Wall	Layer 1: Beige sandy/brittle material with paint	NAD	SAT

SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager:	Mark Hiley	Date Analyzed:	5/19/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	41140.0158
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Building 22 Swift Center
Tel:	206.233.9639	Laboratory batch#:	202210034
Date Report Issued:	5/19/2022	Samples Received:	7

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers.This report in its entirety consists of this cover leter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely

SZhang

Steve (Fanyao) Zhang
Approved Signatory

2022/0034 SAT

LABORATORY CHAIN OF CUSTODY

Project: Building 22 SWIFT Center
Project #: 41140.018
Analysis requested: PLM
Date: May 18 2022
Relinq'd by/Signature: Janet Murphy
Date/Time: May 18 2022
Received by/Signature:
Date/Time: 5/20/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☒ Janet Murphy
- ☐ Kaitlin Soukup
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☐ Ferman Fletcher
- ☐ Cameron Budnick
- ☒ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
1	Textured Concrete	W. Exterior	
2	Textured Concrete	S. Exterior	
3	Textured Concrete	E. Exterior	
4.	Composite Shingle and Felt Paper	Bldg. 22-2111	
5.	Composite Shingle and Felt Paper	Bldg 22-2085	
6.	Gray Sealant	Bldg 22-2111 AT Arch and shingles	
7.	Gray Sealant	Bldg 22-2085 AT Concrete Arch and shingles.	

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials [PLM]

Attn.: Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 41140.0158
Batch#: 202210034
Date Received: 5/19/2022
Samples Rec'd: 7
Date Analyzed: 5/19/2022
Samples Analyzed: 7
Project Loc.: Building 22 Swift Center

Analyzed by: Cici Xu
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	1	1	Gray hard sandy/brittle material		None detected	Sand, Filler, Cement/binder	4	Cellulose
2	2	1	Gray hard sandy/brittle material		None detected	Sand, Filler, Cement/binder	2	Cellulose
3	3	1	Gray hard sandy/brittle material		None detected	Sand, Filler, Cement/binder	3	Cellulose
4	4	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	26	Glass fibers
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Binder/filler	68	Cellulose
5	5	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Binder/filler	67	Cellulose
6	6	1	Black/gray asphaltic material	3	Chrysotile	Asphalt/binder	5	Cellulose
7	7	1	Black/gray asphaltic material	3	Chrysotile	Asphalt/binder	4	Cellulose

SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager:	Mark Hiley	Date Analyzed:	5/19/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	41140.018
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	Building 25 Swift Center
Tel:	206.233.9639	Laboratory batch#:	202210033
Date Report Issued:	5/19/2022	Samples Received:	4

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Thank you for using our service and let us know if we can further assist you.

Sincerely

SZhang

Steve (Fanyao) Zhang
Approved Signatory

2022/0033 SAT

LABORATORY CHAIN OF CUSTODY

Project: Building 25 Swift Center
Project #: 41140.018

Analysis requested: PLM
Date: May 18, 2022

Relinq'd by/Signature: Janet Murphy
Date/Time: May 18 2022

Received by/Signature:
Date/Time: 5/19/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☑ Janet Murphy
- ☐ Kaitlin Soukup
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☐ Ferman Fletcher
- ☐ Cameron Budnick
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
1.	Composite Shingle and Felt Paper	Bldg 25 Roof	
2.	Texture on Concrete	SW Ext Wall	
3.	Texture on Concrete	NE Ext Wall	
4.	Texture on Concrete	N Ext Wall	

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

Disclaimer: This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government.

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials [PLM]

Attn.: Mark Hiley
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 41140.018
Batch#: 202210033
Date Received: 5/19/2022
Samples Rec'd: 4
Date Analyzed: 5/19/2022
Samples Analyzed: 4
Project Loc.: Building 25 Swift Center
Analyzed by: Clc Xu
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	1	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
		2	Black asphaltic fibrous material		None detected	Asphalt/binder, Binder/filler	68	Cellulose
2	2	1	Beige sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	3	Cellulose
3	3	1	Beige sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	2	Cellulose
4	4	1	Beige sandy/brittle material with paint		None detected	Sand, Filler, Binder, Paint	4	Cellulose

APPENDIX B

AA Lead Paint Chip Sampling Information

AA Lead Paint Chip Sample Inventory

AA Lead Paint Chip Laboratory Data Sheets

AA Lead Paint Chip Chain of Custody Documentation

AA LEAD PAINT CHIP SAMPLE INVENTORY

PBS Sample #	Paint Color / Component or Substrate	Sample Location	Results (mg/kg)	Results (%)	Lab
Building 25 Pb1	White paint on concrete	Exterior wall NW	<46	<0.0046	NVL
Building 25 Pb2	Brown paint on wood	Eaves exterior N.	<76	<0.0076	NVL
Building 25 Pb3	Brown metal	Gutter exterior S.	<570	<0.057	NVL
Building 22 Pb1	Brown concrete	Arch over entry door	120000.0	12.0000	NVL
Building 22 Pb2	Brown metal	Gutter at main entry	11000.0	1.1000	NVL
Building 22 Pb3	Yellow concrete	Exterior wall S.	5300.0	0.5300	NVL
Building 22 Pb4	Tan wood	Soffit at main entry	260000.0	26.0000	NVL

mg/kg = Milligrams per kilogram
< = Less than the Limit of Detection

May 20, 2022

Janet Murphy
PBS Environmental - Seattle
214 E Galer St. Suite. 300
Seattle, WA 98102

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

NVL Batch # 2209426.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 41140.018
Location: Building 22 Swift Center

Dear Ms. Murphy,

NVL Labs received 4 sample(s) for the said project on 5/20/2022. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Manager Metals Lab

Enc.: Sample results

ilac-MRA

Accredited Laboratory Pb Lead Lab ID # 101861

LEAD LABORATORY SERVICES

NVL

Company PBS Environmental - Seattle
Address 214 E Galer St. Suite. 300
Seattle, WA 98102
Project Manager Ms. Janet Murphy
Phone (206) 233-9639
Cell (206) 409-9904

NVL Batch Number **2209426.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/23/2022 **Time** 8:00 AM
Email janet.murphy@pbsusa.com
Fax (866) 727-0140

Project Name/Number: 41140.018 **Project Location:** Building 22 Swift Center

Subcategory Flame AA (FAA)
Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 4 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	22359380	41140.018-Pb1		A
2	22359381	41140.018-Pb2		A
3	22359382	41140.018-Pb3		A
4	22359383	41140.018-Pb4		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Rachelle Miller		NVL	5/20/22	800
Analyzed by	Yasuyuki Hida		NVL	5/20/22	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/20/2022
Time: 8:11 AM
Entered By: Rachelle Miller

NVL

PBS

LABORATORY CHAIN

2209426

Project: Building 22 SWIFT Center

Project #: 41140.018

Analysis requested: AAS Lead

Date: May 18 2022

Relinq'd by/Signature: Janet Murphy

Date/Time: May 18, 2022

Received by/Signature: RaKelle M.

Date/Time: 5/18/22 9am BB

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- [ ] Willem Mager
- [ ] Gregg Middaugh
- [x] Mark Hiley
- [ ] Tim Ogden
- [ ] Ryan Hunter
- [ ] Prudy Stoudt-McRae
- [x] Janet Murphy
- [ ] Kaitlin Soukup
- [ ] Allison Welch
- [ ] Toan Nguyen
- [ ] Peter Stensland
- [ ] Claire Tsai
- [ ] Holly Tuttle
- [ ] Mike Smith
- [ ] Ferman Fletcher
- [ ] Cameron Budnick
- [x] Kameron DeMonnin
- [ ] ____________

TURN AROUND TIME:

- [ ] 1 Hour
- [ ] 2 Hours
- [ ] 4 Hours
- [x] 24 Hours
- [ ] 48 Hours
- [ ] 3-5 Days
- [ ] Other____________

SAMPLE DATA FORM

Sample #	Material	Location	Lab
Pb1	Brown / Concrete / Arch	Bldg. 22-2111	
Pb2	Brown / Metal / Gutter	Bldg. 22-2111	
Pb3	Yellow / Concrete / Wall	Bldg 22-2111	
Pb4	Tan / Wood / Soffit	Bldg 22-2085	

214 EAST GALER STREET, SUITE 300 SEATTLE, WA 98102 • [illegible]

May 20, 2022

Janet Murphy
PBS Environmental - Seattle
214 E Galer St. Suite. 300
Seattle, WA 98102

NVL Batch # 2209425.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 41140.018
Location: Building 25 Swift Center

Dear Ms. Murphy,

NVL Labs received 3 sample(s) for the said project on 5/20/2022. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Manager Metals Lab

Enc.: Sample results

Analysis Report

Total Lead (Pb)

NVL

Client: PBS Environmental - Seattle
Address: 214 E Galer St. Suite. 300
Seattle, WA 98102

Attention: **Ms. Janet Murphy**
Project Location: Building 25 Swift Center

Batch #: 2209425.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 41140.018
Date Received: 5/20/2022
Samples Received: 3
Samples Analyzed: 3

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
22359377	41140.018-Pb1	0.2176	46	< 46	< 0.0046
22359378	41140.018-Pb2	0.1310	76	< 76	< 0.0076
22359379	41140.018-Pb3	0.0088	570	< 570	< 0.057

Comments: Small sample size (<0.05g) for 41140.018-Pb3.

Sampled by: Client
Analyzed by: Yasuyuki Hida
Reviewed by: Shalini Patel

Date Analyzed: 05/20/2022
Date Issued: 05/20/2022

Shalini Patel, Manager Metals Lab

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

RL = Reporting Limit
'<' = Below the reporting Limit

Bench Run No: 2022-0520-03
FAA-02

LEAD LABORATORY SERVICES

NVL

Company PBS Environmental - Seattle
Address 214 E Galer St. Suite. 300
Seattle, WA 98102
Project Manager Ms. Janet Murphy
Phone (206) 233-9639
Cell (206) 409-9904

NVL Batch Number **2209425.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/23/2022 **Time** 8:00 AM
Email janet.murphy@pbsusa.com
Fax (866) 727-0140

Project Name/Number: 41140.018 **Project Location:** Building 25 Swift Center

Subcategory Flame AA (FAA)
Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 3 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	22359377	41140.018-Pb1		A
2	22359378	41140.018-Pb2		A
3	22359379	41140.018-Pb3		A

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

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Rachelle Miller		NVL	5/20/22	800
Analyzed by	Yasuyuki Hida		NVL	5/20/22	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/20/2022
Time: 8:00 AM
Entered By: Rachelle Miller

IX 4L

PBS

LABORATORY CHAIN

2209425

Project: Building 25 Swift Control

Project #: 41140.01E

Analysis requested: AAS Lead

Date: May 18, 2022

Relinq'd by/Signature: Janet Murphy

Date/Time: May 18, 2022

Received by/Signature: Rochelle M.

Date/Time: 5/20/22 8am DB

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☒ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☒ Janet Murphy
- ☐ Kaitlin Soukup
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☐ Ferman Fletcher
- ☐ Cameron Budnick
- ☒ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
Pb1	White / Concrete / Wall	Ext. Wall of Bldg NW	
Pb2	Brown / Wood / Eave	Bldg 25 Ext N	
Pb3	Brown / Metal / Gutter	Bldg 25 Ext. S	

214 EAST GALER STREET, SUITE 100, SEATTLE, WA 98102 • 206.21[illegible] MAIN • 866.[illegible] FAX • PBSUSA.COM

APPENDIX C

PBS Inspector Certifications

THIS IS TO CERTIFY THAT

JANET MURPHY

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ASBESTOS INSPECTOR / MANAGEMENT PLANNER REFRESHER

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 03/23/2022

Course Location: Online,

Certificate: IMR-22-8300A

PBS

CCB #SRA0615 4-Hr Training

AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 03/23/2023

For verification of the authenticity of this certificate contact:
PBS Engineering and Environmental Inc.
4412 S Corbett Avenue
Portland, OR 97239
503.248.1939

Andy Fridley, Instructor

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-structural dimension lumber framing, exterior.
B. Roof sheathing.
C. Repair of existing wood roof decking, after removal of roofing.
D. Roof-mounted curbs.
E. Roofing nailers.
F. Fire-treated perimeter curb.
G. Miscellaneous wood nailers, furring, and grounds.
H. Insulation board at membrane roofing.

1.02 RELATED REQUIREMENTS

A. Section 07 31 13 – Asphalt Laminated Shingles: Sheathing and miscellaneous rough and trim carpentry.
B. Section 09 91 13 – Exterior Painting

1.03 REFERENCES

A. American Plywood Association (APA).
   1. "Guide to Plywood Grades."

B. ASTM International (ASTM):
   1. D 3201 - "Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products."

C. Federal Specifications (FS).
   1. TT-W-571 - "Wood Preservation: Treating Practices."

D. International Building Code (IBC).

E. United States Product Standard (PS).
   1. PS-1 - "Construction and Industrial Plywood."

F. West Coast Lumber Inspection Bureau (WCLIB).
   1. “Standard Grading Rules for West Coast Lumber No. 16.”

G. Western Wood Products Association (WWPA).
   1. "Grading Rules for Lumber."

1.04 QUALITY ASSURANCE

A. Regulatory Requirements: Conform with applicable requirements of IBC Chapter 23 and as noted on Structural Drawings.

B. Certifications:
   1. Each piece of lumber shall bear the grade mark of WCLIB or WWPA, and each mill shipment to the site shall be accompanied by a certificate of inspection by WCLIB or WWPA.
   2. Each piece of plywood shall be grade stamped in accordance with APA “Guide to Plywood Grades,” in conformance with requirements of PS-1

1.05 SUBMITTALS

A. Product Data: Provide technical data on roof sheathing and non-wood-based products.

1.06 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
   4. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.02 DIMENSION LUMBER

A. Grading Agency: Western Wood Products Association; WWPA G-5.

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

E. Miscellaneous Trim, Fasciae, and other exposed Finish Lumber:
   1. Boards: S4S, No. 2 or better.

F. Exterior Wood Soffits:
   1. Boards: Tongue-and-Groove 1x4 Cedar, tight knot for semi-transparent finish.

2.03 CONSTRUCTION PANELS

A. Roof Sheathing: Any PS 2 plywood type, rated Structural I Sheathing.
   1. Bond Classification: Exterior.

2. Span Rating: 16.
3. Performance Category: 3/4 PERF CAT.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
   2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
   3. Anchors: Toggle bolt type for anchorage to hollow masonry.

B. Construction Adhesives: Adhesives complying with ASTM C557 or ASTM D3498.

2.05 PRESERVATIVE TREATMENT

A. Fire Retardant Treatment:
   1. Conform with requirements of AWPA C-20 and C-27, Type A, when tested in accordance with ASTM D 3201. Acceptable products include Hickson Corporation, DRICON, or approved.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.02 FRAMING INSTALLATION

A. Set members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Install structural members full length without splices unless otherwise specifically detailed.

C. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes, and AWC (WFCM) Wood Frame Construction Manual.

3.03 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

3.04 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

B. Provide wood curb at all roof openings except where prefabricated curbs are specified and where specifically indicated otherwise. Form corners by alternating lapping side members.

3.05 INSTALLATION OF CONSTRUCTION PANELS

A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
   1. Nail panels to framing; staples are not permitted.

END OF SECTION 06 10 00

SECTION 07 31 13 – LAMINATED ASPHALT SHINGLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Asphalt shingles.
2. Underlayment.
3. Metal flashing and trim.

B. Related Requirements:

1. Section 01 78 01 – Watertightness Warranty.
2. Section 01 78 39 – Material Color & Finish.
3. Section 07 25 00 – Weather Barriers.
4. Section 07 60 00 – Flashing and Sheet Metal.

1.2 SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

C. Sample warranty.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.4 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace asphalt shingles that fail within specified warranty period.

1. Material Warranty Period: 50 years from date of Substantial Completion, prorated, with first three years non-prorated.
2. Wind-Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds of up to 100 mph for 15 years from date of Substantial Completion.
3. Algae-Resistance Warranty Period: Asphalt shingles will not discolor for 15 years from date of Substantial Completion.
4. Workmanship Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Exterior Fire-Test Exposure: Provide asphalt shingles and related roofing materials identical to those of assemblies tested for Class A fire resistance according to ASTM E 108 or UL 790 by Underwriters Laboratories, Inc. or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.

2.2 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

A. Laminated-Strip Asphalt Shingles: ASTM D 3462/D 3462M, laminated, multi-ply overlay construction, glass-fiber reinforced, mineral-granule surfaced, and self-sealing.

1. Basis of Design: Subject to compliance with performance standards, historic design requirements established by the Port of Skagit for the SWIFT Center campus, provide Malarkey 273 Legacy laminated shingles by Malarkey Roofing Products.
2. Butt Edge: Straight cut.
3. Strip Size: Manufacturer's standard.
4. Algae Resistance: Granules resist algae discoloration.
5. Impact Resistance: UL 2218, Class 4.
6. Color and Blends: Antique Brown, no substitutions allowed.

B. Hip and Ridge Shingles: Manufacturer's standard units to match asphalt shingles.

2.3 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226/D 226M, asphalt-saturated organic felts, nonperforated.

1. Type: Type II, 30lb felt.

B. Self-Adhering Sheet Underlayment, High Temperature: Minimum of 30-mil- thick; with slip-resisting, polymer-film-reinforced or glass-reinforced top surface laminated to layer of butyl or SBS-modified asphalt adhesive; with release backing; cold applied; and evaluated and documented to be suitable for use for intended purpose under applicable codes by a testing and inspecting agency acceptable to authorities having jurisdiction. Install at eve perimeters and all valleys and ridges.

1. Grace Ultra Self Adhering Sheet Membrane, 30 mil.
2. Thermal Stability: Stable after testing at 240 deg F according to ASTM D 1970/D 1970M.
3. Low-Temperature Flexibility: Passes after testing at minus 20 deg F according to ASTM D 1970/D 1970M.

2.4 ACCESSORIES

A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.

B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized-steel wire shingle nails, minimum 0.120-inch- diameter, sharp-pointed, with a minimum 3/8-inch- diameter flat head and of sufficient length to penetrate 3/4 inch into solid wood decking or extend at least 1/8 inch through OSB or plywood sheathing.

1. Shank: Barbed / ring shank.
2. Where nails are in contact with metal flashing, use nails made from same metal as flashing.

C. Felt-Underlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized-steel wire with low-profile capped heads or disc caps, 1-inch minimum diameter.

D. Synthetic-Underlayment Fasteners: As recommended in writing by synthetic-underlayment manufacturer for application indicated.

2.5 METAL FLASHING AND TRIM

A. General: Comply with requirements in Section 07 60 00 "Flashing and Sheet Metal."

1. Sheet Metal: Zinc-tin alloy-coated steel and Aluminum, mill finished.

B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

A. General: Comply with underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

B. Double-Layer Felt Underlayment: Install on roof deck parallel with and starting at the eaves. Install a 19-inch- wide starter course at eaves and completely cover with full-width second course. Install succeeding courses lapping previous courses 19 inches in shingle fashion. Lap ends a minimum of 6 inches. Stagger end laps between succeeding courses at least 72 inches. Fasten with felt-underlayment nails.

1. Apply a continuous layer of asphalt roofing cement over starter course and on felt-underlayment surface to be concealed by succeeding courses as each felt course is installed. Apply over entire roof.
2. Install felt underlayment on roof sheathing not covered by self-adhering sheet underlayment. Lap edges over self-adhering sheet underlayment not less than 3 inches in direction that sheds water.

3. Terminate felt underlayment extended up not less than 4 inches against sidewalls, curbs, chimneys, and other roof projections.
4. Install fasteners at no more than 24 inch o.c.

C. Self-Adhering Sheet Underlayment: Install, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install lapped in direction that sheds water. Lap sides not less than 3-1/2 inches. Lap ends not less than 6 inches staggered 24 inches between courses. Roll laps with roller. Cover underlayment within seven days.

1. Prime any concrete and masonry surfaces to receive self-adhering sheet underlayment.

3.2 METAL FLASHING INSTALLATION

A. General: Install metal flashings and other sheet metal to comply with requirements in Section 07 60 00 " Flashing and Sheet Metal."

1. Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."

3.3 ASPHALT-SHINGLE INSTALLATION

A. General: Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and recommendations in NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."

B. Install starter strip along lowest roof edge, consisting of an asphalt-shingle strip at least 7 inches wide with self-sealing strip face up at roof edge.

1. Extend asphalt shingles 3/4 inch over fasciae at eaves and rakes.
2. Install starter strip along rake edge.

C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

D. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

E. Install asphalt shingles by single-strip column or racking method, maintaining uniform exposure. Install full-length first course followed by cut second course, repeating alternating pattern in succeeding courses.

F. Fasten asphalt-shingle strips with a minimum of five roofing nails located according to manufacturer's written instructions to meet warranty provisions.

1. Where roof slope exceeds 21:12, seal asphalt shingles with asphalt roofing cement spots after fastening with additional roofing nails.
2. Where roof slope is less than 4:12, seal asphalt shingles with asphalt roofing cement spots.
3. When ambient temperature during installation is below 50 deg F, seal asphalt shingles with asphalt roofing cement spots.

G. Woven Valleys: Extend succeeding asphalt-shingle courses from both sides of valley 12 inches beyond center of valley, weaving intersecting shingle-strip courses over each other. Use one-piece shingle strips without joints in valley.

1. Do not nail asphalt shingles within 6 inches of valley center.

H. Open Valleys: Cut and fit asphalt shingles at open valleys, trimming upper concealed corners of shingle strips. Maintain uniform width of exposed open valley 1/8 inch in 12 inches from highest to lowest point.

1. Set valley edge of asphalt shingles in a 3-inch- wide bed of asphalt roofing cement.
2. Do not nail asphalt shingles to metal open-valley flashings.

I. Hip and Ridge Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

END OF SECTION 07 31 13

SECTION 07 60 00 – FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 REFERENCES

A. ASTM International (ASTM):
   1. A653 – Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

B. Federal Specification (FS).

C. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
   1. Architectural Sheet Metal Manual.

1.2 SYSTEM DESCRIPTION

A. Comply with details and recommendations of SMACNA Architectural Sheet Metal Manual.

1.3 SUBMITTALS

A. Provide shop drawings for all flashing conditions and product information regarding metal materials.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Prefinished Metal Flashing and Counterflashing: 24 gauge typical prefinished metal with 3-coat Fluoropolymer (AAMA206) “Kynar” finish from AEP span (basis-of-design). Taylor Metal Products, Nu-Ray Metals, or equal as approved by Architect and Owner’s Project Manager.

B. Prefinished Gutters and Downspouts: 0.032 thickness, typical prefinished seamless extruded gutter system, color and profile to match existing.
   1. Fabricate to cross-section required; complete with end pieces outlet tubes and flatstock gutter brackets and spacers (at same metal as gutters). Rivet and seal at all joints.

C. Colors to be selected from standard manufacturer palette to conform with campus historic standards.

D. Nails, Discs, and Rivets: Hot-dip galvanized steel nails. Where sheet metal is built in over roofing materials or other sheet, use nails with 1 inch diameter tinned discs.

Rivets shall be tinned soft iron rivets.

E. Fastenings: Bolts and nuts, powder-driven fasteners, screws, washers, and other fasteners for exterior use shall be galvanized.

F. Anchors to Concrete: Equivalent to Phillips "Red Head."

G. Sealant: As specified in Section 07 92 00.

H. Reglets and Termination Bars: Provide secure interlock of system to substrate.

2.2 FABRICATION

A. Fabricate all flashing and sheet metal Work in accordance with requirements of SMACNA and as shown on drawings. Fabricate as much Work in shop as is practicable. Accurately form all sheet metal Work to fit snugly with exposed edges folded under at least 1/2 inch without sharp exposed corners. Seam and solder watertight all corners and joints shown or required to make a watertight installation. Rivet joints as required for strength.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove all dirt and foreign materials from surfaces to receive flashing and sheet metal. Surfaces shall be clean, smooth, even, and free from defects, prior to installation.

3.2 INSTALLATION

A. Install materials in accordance with SMACNA recommendations, detailed Specifications, and step-by-step application procedures.
   1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
   2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
   3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
   4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
   5. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

1. Coat concealed side of uncoated-aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws; substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 – Joint Sealants.

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.
1. Do not solder metallic-coated steel and aluminum sheet.
2. Do not use torches for soldering.
3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
4. Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
5. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.

H. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

3.3 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate.

C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.

D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.

E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches.

F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

3.4 WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated.

B. Reglets: Installation of reglets is specified per SMACNA Manual Standard Detailing.

3.5 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Retain first paragraph below for metal surfaces unless metal is painted, coated, or lacquered.

C. Clean and neutralize flux materials. Clean off excess solder.

D. Clean off excess sealants.

E. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions

END OF SECTION 07 60 00

SECTION 07 72 00 – ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof curbs.
2. Piping supports.

1.2 SUBMITTALS

A. Product Data: For each type of roof accessory indicated.

B. Shop Drawings: For roof accessories.

C. Samples: For each exposed product and for each color and texture specified.

D. Warranty: Sample of standard warranty.

E. Operation and maintenance data.

1.3 WARRANTY

A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL MATERIALS

A. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, AZ50 (AZM150) coated.
1. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 1 mil (0.025 mm) for topcoat.

B. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used, otherwise mill finished.

C. Stainless-Steel Sheet and Shapes: ASTM A 240/A 240M or ASTM A 666, Type 304.

D. Steel Shapes: ASTM A 36/A 36M, hot-dip galvanized according to ASTM A 123/A 123M unless otherwise indicated.

2.2 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.

B. Wood Nailers: Pressure-Treated Softwood lumber. Fire-Treated at locations where noted on plans.

C. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide non-removable fastener heads to exterior exposed fasteners.

D. Sealants: As recommended by roof accessory manufacturer for installation indicated, see Section 07 92 00 – Joint Sealants.

2.3 ROOF JACKS AND BOOTS

A. GAF Masterflow or equal galvanized metal roof louver (passive ventilator).

B. Vent pipe boot, Carlisle Sure-Weld TPO Pipe Seal or equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.

1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.

C. Seal joints with sealant as required by roof accessory manufacturer.

3.2 REPAIR AND CLEANING

A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.

B. Touch up factory-primed surfaces with compatible primer ready for field painting.

C. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 07 72 00

SECTION 07 92 00 – JOINT SEALANTS

PART 1 – GENERAL

1.1 APPLICABLE QUALITY ASSURANCE / STANDARDS

A. Comply with SWI “Sealants: The Professionals’ Guide.” Provide manufacturer’s adhesion testing and compatibility certification to Architect and Owner.

B. ASTM C920 – specifications for elastomeric joint sealants

C. All interior products to have 250g/L VOC or less

1.2 SUBMITTALS

A. Product Data and Installation Instructions

1.3 WARRANTY

A. 2-year material and install warranty

PART 2 – PRODUCTS

2.1 MATERIALS

B. Comply with SWI "Sealants: The Professionals' Guide." Provide manufacturer’s adhesion testing and compatibility certification to Architect and Owner. All sealants and caulking exposed to the interior shall have 250 g/L VOC or less.

C. Provide caulking and sealing wherever required to prevent light leakage and sound penetration, as well as moisture intrusion.

D. Exterior Sealant: Tremco, Pecora Corporation, Sonneborn Building Products, ASTM C 920, single component, gun-grade, non-sag, acrylic terpolymer sealant, with movement capability of plus or minus 12-1/2 percent. Color as selected by Architect/Port Project Manager.

E. Joint Backing: Closed cell neoprene or polyethylene, compatible with sealant materials, of sizes and shapes as recommended by the joint sealant manufacturer.
   1. Sealant joint width/depth ratio equal 2:1 but depth 1/4 inch minimum, 1/2 inch maximum.

F. Primers, Solvents, and Cleaning Materials: Non-staining and non-injurious to exposed surfaces, of types as recommended by the joint sealant manufacturer.

G. Adhesives:
1. All adhesives employed on this project (including, but not limited to, adhesives for wood, or sealants) shall be those with the lowest possible VOC content below 20 grams per liter and which meet the requirements of the manufacturer of the projects adhered or involved. The Contractor shall use adhesives and sealants with no formaldehyde or heavy metals.

PART 3 – EXECUTION

3.1 PREPARATION

H. Surface Preparation:
1. Thoroughly clean and dry surfaces prior to installation.
2. Clean metals with manufacturer's recommended solvent, wipe clean.
3. Remove any dust, dirt, oil, grease, and any other foreign substances from surface areas to receive sealant.
4. Prime surfaces as recommended by sealant manufacturer. Prime all concrete substrates, regardless of manufacturer's requirements.
5. Mask off any adjacent surfaces which are not to receive sealant.

3.2 APPLICATION

I. General:
1. Comply with sealant manufacturer's installation instructions.
2. Provide bond breaker tape as required to prevent sealant adhesion to backing.
3. Joint depth 1/2 joint width, but not less than 1/4 inch nor more than 1/2 inch, unless otherwise specified by sealant manufacturer.

J. Joint Backing: Install as recommended by sealant manufacturer to prevent sealant from adhering to rigid, inflexible materials or joint surfaces where such adhesion would result in sealant failure. Sealant shall bond two opposing joint surfaces.

K. Sealant Application:
1. Do not install sealants during rainfall or very windy conditions when windborne contaminants can become embedded in uncured sealant.
2. Apply materials with hand gun, powered gun, or trowel to completely fill voids and joints, free of wrinkles and skips.
3. Observe temperature control in accordance with sealant manufacturer's written recommendations.
4. Do not allow any air entrapment in sealant.
5. Extrude sealant fully into joint to be sealed, tool sealant to press into joint, assuring full adhesion to sides of joint surfaces, resulting in a uniformly smooth concave profile.
6. Tool sealant using only materials recommended by sealant manufacturer.
7. Remove masking tape immediately after sealant application to produce clean, sharp line.
8. Do not seal weeps or drainage provisions in sill channels.

9. Allow sealants to cure adequately prior to covering with other Work.
10. Coordinate sealant installation with concrete, masonry, and flashing applications.
11. Apply sand to wet sealant surfaces to match finish of adjacent concrete and masonry conditions, if applicable.

3.3 CLEANING

L. Remove all empty containers, materials, and debris from the site. Dispose off site in accordance with applicable regulations.

M. Remove any sealant spills, masking materials, and similar items from all surfaces not intended for their application.

N. Clean and repair surfaces soiled or damaged by sealant work.

END OF SECTION 07 92 00

SECTION 09 91 13 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Unless otherwise shown or specified paint all surfaces exposed in the finished Work.

B. Surfaces Not to be Painted: Materials with factory applied finish or integral color, hardware, finished metals, glass, plastic laminate, tile, resilient flooring, lighting fixtures, Code-Required labels.

C. Related Sections
   1. Joint Sealants: Section 07 92 00.

1.2 REFERENCES

A. Master Painters and Decorators Association (MPDA).
   1. Master Painters Institute (MPI): “MPI Architectural Painting Specification Manual.”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of topcoat product.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer’s unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Take Special safety precautions against hazards from toxic and flammable materials.

D. Place paint and solvent contaminated cloths and materials, subject to spontaneous combustion, in containers and remove from job site each day.

E. Keep open flame, electrical and static spark, and other ignition sources from flammable vapors and materials at all times

1.6 PROJECT CONDITIONS

A. Environmental Requirements: Comply with manufacturers' recommendations for environmental conditions under which paint and painting systems shall be applied.

B. Do not allow rags to accumulate. At the end of each day's Work remove from Site rags and papers used for painting or cleanup operations. During the day's Work keep used rags in approved closed metal containers.

C. Post “WET PAINT” signs during application and curing of all coatings that may be accessed by other trades or the public.

D. Post “NO SMOKING” signs during application and curing of solvent-based materials.

1.7 COORDINATION

A. Coordinate Work with other operations and installation of finish materials to avoid damage to installed materials.

B. Do not apply coating materials until moisture or dust-producing work or other appearance or performance impairing construction activities have been completed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Sherwin Williams, as the Basis of Design. Other manufacturers as approved via submittal review.

2.2 PAINT PRODUCTS, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by topcoat manufacturer for use in paint system and on substrate indicated.

B. Colors are scheduled to match existing conditions

2.3 PAINTING SYSTEMS

A. General:
1. Finish systems codes specified are for MPI Premium Grade finishes unless otherwise noted. Sherwin Williams is the Basis of Design.
2. Each system establishes procedure, quality, and number of coats. All coats listed are in addition to shop prime coats. Additional coat or coats will be required if system specified does not cover.
3. Specified coats for any one paint system shall be products of the same manufacturer.
4. Surfaces not to be painted: Materials with factory applied finish other than shop-coat, finished metals and finish hardware, glass, plastic laminate, concrete sidewalks, lighting fixtures, labels required by code, sprinkler heads and operating parts.

B. Exterior (Premium Grade, unless noted otherwise)
1. Exterior Wood (Paint Finish): MPI System no. EXT 6.2A, Solid Color Stain.
a. One coat oil/alkyd primer #5
b. Two coats Latex #10.
2. Exterior Wood (Semi-Transparent Finish): MPI System no EXT 6.4L, Semi-Transparent Waterborne Stain.
a. Two coats Semi-Transparent Waterborne Stain MPI #156
3. Stucco/Plaster – MPI System EXT 9.1J.
a. One coat Alkali Resistant Primer, MPI #3.
b. One coat Latex, MPI #10 (Semi Gloss).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify suitability of substrates, including surface conditions and compatibility, with finishes and primers.

B. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems specified in this Section.

3.3 INSTALLATION

A. Apply paints in accordance with manufacturer's written instructions.

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09 91 13