



## **Concessions Stand Remodel and New Batting Cage**

### **Bid and Construction Documents PROJECT MANUAL**

**June 26, 2014**

Southern Oregon University  
Facilities Management & Planning  
351 Walker Avenue • Ashland, Oregon 97520  
Phone 541-552-6888

Kistler Small & White Architects  
552 A Street • Ashland, OR 97520  
Phone 541-488-8200

PROJECT MANUAL

S.O.U.

CONCESSION STAND REMODEL

&

BATTING CAGE



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# OREGON UNIVERSITY SYSTEM

## NOTICE OF RETAINER CONTRACT OPPORTUNITY SOU SOFTBALL CONCESSIONS STAND REMODEL & NEW BATTING CAGE ITB#2014-0626

**THIS OPPORTUNITY IS ONLY AVAILABLE TO CONTRACTORS WITH A CURRENT OREGON UNIVERSITY SYSTEM (OUS) RETAINER CONTRACT FOR CONSTRUCTION RELATED SERVICES.**

The State of Oregon, acting by and through the State Board of Higher Education on behalf of Southern Oregon University (“SOU” or “Owner”) is accepting sealed bids for a public improvement project at the **SOU Facilities Management & Planning Department, 351 Walker Avenue, Ashland, Oregon** on **July 17, 2014 until 4:00 PM**, (“Closing Date and Time”) for the **Softball Concessions Stand Remodel & New Batting Cage** project located on the SOU campus, in Ashland, Oregon (“Project”). Bids may also be submitted via email as described in Section B-3 of the project manual.

The Project includes labor, equipment and materials necessary for interior renovations to the existing concessions building and construction of a new batting facility. Work includes selective demolition, concrete, CMU, metals, rough carpentry, wood casework, shingle roofing, doors and frames, hardware, drywall, floor coverings, painting and specialties. Mechanical and electrical work will be bidder design/build under the general contractor. This project includes (6) bid alternates.

This project will be permitted by the City of Ashland. The selected contractor is required to coordinate all required inspections with the Ashland Building Department and deliver a Certificate of Occupancy to SOU upon completion of the Project. All permit and development fees charged by the City of Ashland will be paid directly by SOU. Bid security, performance and payment bonds are required for this project.

A **mandatory pre-bid conference** will be conducted on **Wednesday July 2, 2014, at 9:00AM** local time. Bidders shall meet with Owner’s Representative at the **Concessions Building** for that purpose. The Concessions Building street address is 1455 Iowa Street, Ashland, OR. Attendance will be documented through a sign-in sheet prepared by the Owner’s Representative. Prime bidders who arrive more than 5 minutes after start of time of the meeting (as stated in the solicitation and by the Owner’s Representative’s watch) or after the discussion portion of the meeting (whichever comes first) shall not be permitted to sign in and will not be permitted to submit a bid on the Project.

Bids will be opened and publicly read aloud on **July 17, 2014 at 4:00 PM**, at the **SOU Facilities Management & Planning Department, 351 Walker Avenue, Ashland, Oregon** by the Owner’s representative or designee.

Bids will be received on a lump-sum basis for all of the work. **Bid packets may be obtained on the OUS Bid and Business Opportunities website (<http://secure.ous.edu/bid/>) or by**

**contacting Jim McNamara at the SOU Facilities Office (Phone: 541-552-6888, Email: <mailto:mcnamaraj@sou.edu>).**

All bidders must comply with requirements of the prevailing wage law in ORS 279C.800 through ORS 279C.870 if the bid amount exceeds \$50,000. All bidders must be registered with the Construction Contractor's Board at the time of bid submission. No bid will be considered unless fully completed in the manner provided in the "Instructions to Bidders" upon the Bid Form provided and accompanied by Bid Security. OUS encourages bids from Minority, Women, and Emerging Small Businesses.

OREGON STATE BOARD OF HIGHER EDUCATION

By: Drew Gilliland  
Director, SOU Facilities Management and Planning

PUBLICATIONS AND DATES:

OUS procurement website June 26, 2014

**OREGON UNIVERSITY SYSTEM**  
**STANDARD RETAINER CONTRACT**  
**INSTRUCTIONS TO BIDDERS**

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## **INSTRUCTIONS TO BIDDERS**

Oregon Administrative Rules (“OAR”) Chapter 580, Divisions 61 and 63 govern this OUS procurement process.

### **Article 1. Definitions**

**1.1.** Capitalized words used herein but not defined shall have the meaning set forth in the OUS Retainer General Conditions and OAR 580-061-0010. The following terms used herein shall have the meaning set forth below:

“**Bid Form**”- refers to OUS Contract Form B-5 provided by Owner to be completed by Bidder.

“**Project Manual**”- The Project Manual includes, but is not necessarily limited to the following: the Advertisement for Bids or Notice of Contracting Opportunity, these Instructions to Bidders, Supplemental Instructions to Bidders, Bid Form, Bid Bond, OUS Retainer Contract General Conditions, Supplemental General Conditions (if any), Sample Retainer Contract Supplement, Performance Bond, Payment Bond, and the Plans and Specifications.

### **Article 2. Scope of Work**

**2.1** The Work contemplated in this document shall be for the Owner in connection with the Project described in the Project Manual.

### **Article 3. Examination of Site and Conditions**

**3.1** Before making a Bid, the Bidder shall examine the Work site to ascertain its physical condition. The Bidder shall be responsible for being fully informed as to the quality, quantity and sources of supply of the materials listed on the Project Manual. Failure to comply with this Section will not release Contractor from entering into the Contract nor excuse Contractor from performing the Work in strict accordance with the terms of the Contract Documents.

**3.2** The Owner will not be responsible for any loss or unanticipated costs which may arise as a result of Contractor's failure to be fully informed in advance with regard to all conditions pertaining to the Work and the character of the Work required.

**3.3.** No statement made by any officer, agent, or employee of the Owner in relation to the physical conditions pertaining to the Work site or quality, quantity, and supply of materials will be binding on the Owner, unless included in writing in the Project Manual or an Addendum.

### **Article 4. Substitute Materials Approval Process**

**4.1** Prior to submitting a Bid including a Substitution, the Bidder must first seek approval of the Substitution from the Architect (or Engineer, as appropriate hereafter) by submitting a written request for approval at least [8] calendar days prior to the Closing Date and Time. The Bidder submitting the request shall be responsible for its timely delivery.

**4.2** Substitution approval requests shall be accompanied by samples, records of performance, certified copies of tests by impartial and recognized laboratories, and such other information as the Architect may request.

**4.3** Within a reasonable time after receiving such a request the Owner (or Architect if so designated) will consider whether the Substitution sought by Bidder is of equal value, utility, as the designated product in the Project Manual. If the requested Substitution is approved an Addendum to the Project Manual shall be issued. A copy of each



Addendum will be posted on the OUS Bid and Business Opportunities website (<http://secure.ous.edu/bid>) and shall become a part of the Project Manual.

**4.4** When the Architect approves a Substitution by Addendum, it is with the understanding that the Contractor guarantees the substituted article or material to be equal or better than the one specified.

## **Article 5. Interpretation of Project Manual**

**5.1** A Bidder in doubt as to the meaning of any part of the Project Manual may submit a written request for an interpretation to the Architect at any time prior to [8] calendar days prior to the Closing Date and Time.

**5.2** Any interpretation of the Project Manual will be made only by a duly issued Addendum. The Owner will not be responsible for any other explanation or interpretation of the Project Manual nor for any other approval of a particular manufacturer's process or item.

**5.3** To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the Project Manual either by description of process or by designating a manufacturer by name and referring to a brand or product designation or by specifying a kind of material. Whenever a process is designated or a manufacturer named, brand or item designation given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether they do so or not.

## **Article 6. Execution of the Bid Form**

**6.1** The Bid Form relates to Bids on a specific Project Manual. Only the amounts and information asked for on the Bid Form furnished by the Owner will be considered as the Bid. Each Bidder shall Bid upon the Work exactly as set forth in the Bid Form. The Bidder shall include in the Bid a sum to cover the cost of all items contemplated by the Project Manual. Bids that fail to address alternates set forth on the Bid Form may be considered non-responsive.

**6.2** Each Bid Form must: 1) Be completed in accordance with these instructions; 2) Include the appropriate signatures as noted on the Bid Form; 3) Include numbers pertaining to base Bids stated both in writing and in figures; and 4) Include the Bidder's typed or clearly printed address.

**6.3** When Bidding on an alternate for which there is no charge, the Bidder shall write the words "No Charge" in the space provided on the Bid Form. If one or more alternates is shown on the Bid Form, the Bidder shall indicate whether each is "add" or "deduct."

## **Article 7. Prohibition of Alterations to Bid**

**7.1** Bids which are incomplete, or contain ambiguities or conditions not provided for in the Bid Form, may be rejected.

## **Article 8. Submission of Bid**

**8.1** Each Bid shall be sealed in an envelope, properly addressed to the appropriate project representative of the Owner, showing on the outside of the envelope the name of the Bidder and the name of the project. Bids will be received at the time and place stated in the Advertisement for Bids.

## **Article 9. Bid Closing and Opening of Bids**

**9.1** All Bids must be received by the Owner before the Closing Date and Time. Any Bids received after the Closing Date and Time will be rejected and returned to the Bidder unopened.

**9.2** At the time of opening and reading of Bids, each Bid received, irrespective of any irregularities or informalities, will be publicly opened and read aloud.

#### **Article 10. Acceptance or Rejection of Bids by Owner**

**10.1** Unless all Bids are rejected, the Owner will award the Contract based on the lowest responsive Bid from a responsible Bidder. If that Bidder does not execute the Contract, the Contract will be awarded to the next lowest responsible Bidder or Bidders in succession.

**10.2** The procedures for Contract awards shall be in compliance with the provisions of OARs adopted by the Owner.

**10.3** The Owner reserves the right to reject all Bids and to waive minor informalities.

**10.4** The Owner reserves the right to hold the Bid and any required Bid security, of the three lowest Bidders for a period of 30 calendar days from the time of Bid opening pending award of the Contract. Following award of the Contract, any Bid security furnished by the three lowest Bidders may be held 20 calendar days pending execution of the Contract. All other Bids will be rejected and Bid security returned.

**10.5** In determining the lowest Bidder, the Owner reserves the right to take into consideration any or all authorized base Bids as well as alternates or combinations indicated in the Bid Form.

**10.6** If Owner has not accepted a Bid within 30 calendar days after the opening of the Bids, each of the three lowest Bidders may withdraw the Bid submitted and request the return of any Bid security then held.

#### **Article 11. Withdrawal of Bid**

**11.1** At any time prior to the Closing Date and Time a Bidder may withdraw its Bid. This will not preclude the submission of another Bid by such Bidder prior to the Closing Date and Time.

**11.2** After the Closing Date and Time, no Bidder will be permitted to withdraw its Bid within the time period specified in Article 10 for award and execution, except as provided for in that Article.

#### **Article 12. Execution of Contract, Agreement, Performance Bond and Payment Bond**

**12.1** The Owner will provide the successful Bidder with Contract Documents within 10 calendar days after the award of the Contract. The Bidder shall be required to execute the Contract as provided, including a Performance Bond and a Payment Bond from a surety company licensed to do surety business in the State of Oregon, within 20 calendar days after the award of the Contract. The Contract Documents shall be delivered to the Owner in the manner stated in the Notice of Award.

#### **Article 13. Recyclable Products**

**13.1** Contractors must use recyclable products to the maximum extent economically feasible in the performance of the Contract.

#### **Article 14. Security to Be Furnished by Each Bidder**

**14.1** Each Bid must be accompanied by either: 1) a cashier's check or a certified check drawn on a bank authorized to do business in the State of Oregon, or 2) a Bid Bond described hereinafter, executed in favor of Owner, for an amount equal to 10 percent of the total Bid amount as a guarantee that if awarded the contract the Bidder will execute the contract and give a Performance Bond and Payment Bond as required.

**14.2** The Contractor's check or Bid Bond will be retained until the Contractor has entered into a Contract and furnished a 100 percent Performance Bond and 100 percent Payment Bond.

**14.3** The Owner reserves the right to hold the Bid security as described in Article 10. Should the successful Bidder fail to execute and deliver the Contract as provided for in Article 12, including a satisfactory performance bond and payment bond within 20 calendar days after the Bid has been accepted by the Owner, then the Contract award may be canceled and the Bid security may be forfeited as liquidated damages, at the option of the Owner. The date of the acceptance of the Bid and the award of the contract as contemplated by the Project Manual shall mean the date of acceptance specified in the Notice of Award.

## **Article 15. Execution of Bid Bond**

**15.1** Should the Bidder elect to utilize a Bid Bond as described in Article 14 in order to satisfy the Bid security requirements, such form must be completed in the following manner:

**15.1.1** Bid Bonds must be executed on OUS forms, which will be provided to all prospective Bidders by the Owner.

**15.1.2** The Bid Bond shall be executed on behalf of a bonding company licensed to do business in the State of Oregon.

**15.1.3** In the case of a sole individual, the Bid Bond need only be executed as principal by the sole individual. In the case of a partnership, the Bid Bond must be executed by at least one of the partners. In the case of a corporation, the Bid Bond must be executed by stating the official name of the corporation under which is placed the signature of an officer authorized to sign on behalf of the corporation followed by such person's official capacity, such as president, etc. This signature shall be attested by the secretary or assistant secretary of the corporation. The corporation seal should then be affixed to the Bid Bond. In the case of a limited liability company/corporation ("LLC"), the Bid Bond must be executed by stating the official name of the LLC under which is placed the signature of a member authorized to sign on behalf of the LLC.

**15.1.4** The name of the surety must be stated in the execution over the signature of its duly authorized attorney-in-fact and accompanied by the seal of the surety corporation.

**OREGON UNIVERSITY SYSTEM  
STANDARD RETAINER CONTRACT**

**SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

**Project Name: Concessions Stand Remodel & New Batting Cage ITB #2014-0626**

**The following modify the Oregon University System “Instructions to Bidders, Form B-2” for this procurement. Where a portion of the Instructions to Bidders has been modified by these Supplemental Instructions to Bidders, the unaltered portions shall remain in effect.**

**[Submission of Bids by email]** Complete Bids (including all attachments) may be emailed and must be electronically received by the Closing Date and Time **July 17, 2014 at 4:00 p.m. Local Time.** **The Bid must be emailed to: Drew Gilliland <mailto:soubid@sou.edu>.** **The email subject line must be “Bid for [Project Name].” Bidders submitting an electronic Bid will receive an automatic email reply.** Bidders that do not receive an automatic reply ***must*** telephone and confirm electronic receipt of the complete emailed document(s) before the Closing Date and Time. Bids delayed or lost by email system filtering or failures may be considered at Owner’s sole discretion.

**In addition** to electronic submission, the original copy of the Bid must be postmarked no later than **July 18, 2014.** The envelope/package containing the Proposal must be clearly marked “**Bid for Concessions Stand Remodel and New Batting Cage.**”

**Project Schedule:**

Advertisement for Bids	June 26, 2014
<b>Mandatory Pre-bid Conference</b>	<b>July 2, 2014, 9:00 a.m.</b>
Deadline for Written Submittal of Questions/Requests for Clarifications or Substitutions	July 9, 2014, 4:00 p.m.
SOU to Issue Written Addendum in Response to Questions	July 10, 2014, 4:00 p.m.
<b>Bid Deadline</b>	<b>July 17, 2014, 4:00 p.m.</b>
Anticipated Notice of Intent to Award	July 17, 2014
Finalize Contract	June 18, 2014
<b>Construction Schedule:</b>	
Construction Start	July 21, 2014
Substantial Completion - Locker Room	September 22, 2014
Substantial Completion - Batting Facility	October 31, 2014

**OREGON UNIVERSITY SYSTEM**  
**STANDARD RETAINER CONTRACT**

**BID BOND**

We, \_\_\_\_\_, as "Principal,"  
(Name of Principal)

and \_\_\_\_\_, an \_\_\_\_\_ Corporation,  
(Name of Surety)

authorized to transact Surety business in Oregon, as "Surety," hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns to pay unto the State of Oregon and the Oregon State Board of Higher Education ("Obligee") the sum of (\$\_\_\_\_\_)

\_\_\_\_\_ dollars.

**WHEREAS**, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document (No. \_\_\_\_\_) for the project identified as:

\_\_\_\_\_ which proposal or bid is made a part of this bond by reference, and Principal is required to furnish bid security in an amount equal to ten (10%) percent of the total amount of the bid pursuant to the procurement document.

**NOW, THEREFORE**, if the proposal or bid submitted by Principal is accepted, and if a contract pursuant to the proposal or bid is awarded to Principal, and if Principal enters into and executes such contract within the time specified in the Instructions to Bidders and executes and delivers to Obligee its good and sufficient Performance Bond and Payment Bond required by Obligee within the time fixed by Obligee, then this obligation shall be void; otherwise, it shall remain in full force and effect.

**IN WITNESS WHEREOF**, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**PRINCIPAL:** \_\_\_\_\_

**SURETY:** \_\_\_\_\_

By \_\_\_\_\_  
Signature

BY ATTORNEY-IN-FACT:

\_\_\_\_\_  
Official Capacity

\_\_\_\_\_  
Name

Attest: \_\_\_\_\_  
Corporation Secretary

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Fax

**STATE OF OREGON  
FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM**

*This form must be submitted at the location specified in the Invitation to Bid within two (2) working hours after the date and time of the deadline when the bids are due.*

*List below the name of each subcontractor that will be furnishing labor or labor and materials and that is required to be disclosed by ORS 279C.370, the dollar value of the subcontract and the category of work that the subcontractor will be performing.*

Enter "**NONE**" if there are no subcontractors that need to be disclosed.  
(ATTACH ADDITIONAL SHEETS IF NEEDED)

**Project Name: Concessions Stand Remodel & New Batting Cage ITB #2014-0626**

**Bid Closing - Date: July 17, 2014 Time: 4:00 PM**

SUBCONTRACTOR NAME (Please Print)	DOLLAR VALUE	CATEGORY/DIVISION OF WORK (Painting, electrical, landscaping, etc.)
Name	\$	
Name	\$	
Name	\$	
Name	\$	
Name	\$	
Name	\$	
Name	\$	
Name	\$	
Name	\$	
Name	\$	
<p><b>Failure to submit this form by 6:00 p.m. on the day of the bid opening will result in a non-responsive bid.</b></p> <p><b>A non-responsive bid will not be considered for award.</b></p>		

**Form submitted by (Bidders Name):** \_\_\_\_\_

Contact Name: \_\_\_\_\_ Phone No.: \_\_\_\_\_

**OREGON UNIVERSITY SYSTEM**  
**STANDARD RETAINER CONTRACT**

**BID FORM**

OUS CAMPUS:         **Southern Oregon University**    

PROJECT:             **Concessions Stand Remodel & New Batting Cage**    

BID CLOSING DATE:     **July 17, 2014**    

BID OPENING:         **July 17, 2014**    

FROM: \_\_\_\_\_  
*Name of Contractor*

TO:     The State of Oregon, acting by and through the Oregon State Board of Higher Education,  
on behalf of **Southern Oregon University** (“Owner”)  
              **1250 Siskiyou Boulevard**      
              **Ashland, OR 97520**    

1.     The Undersigned (*check one of the following and insert information as requested*):

\_\_\_\_ a. An individual doing business under an assumed name registered under the laws of  
the State of \_\_\_\_\_; or

\_\_\_\_ b. A partnership registered under the laws of the State of \_\_\_\_\_;  
or

\_\_\_\_ c. A corporation organized under the laws of the State of \_\_\_\_\_; or

\_\_\_\_ d. A limited liability corporation/company organized under the laws  
of the State of \_\_\_\_\_;

hereby proposes to furnish all material and labor and perform all Work hereinafter  
indicated for the above project in strict accordance with the Contract Documents for the  
Basic Bid as follows.   **BASE BID:**

\_\_\_\_\_ **Dollars (\$\_\_\_\_\_)**

and the Undersigned agrees to be bound by each of the following documents:

- Advertisement for Bids or Notice of Retainer Contract Opportunity
- Instructions to Bidders
- Supplemental Instructions to Bidders
- OUS Retainer Contract General Conditions

- Supplemental OUS Retainer Contract General Conditions
- Sample Retainer Contract Supplement
- Performance Bond and Payment Bond
- Plans and Specifications
- Drawings and Details
- Prevailing Wage Rates
- Payroll and Certified Statement Form
- Any **ADDENDA** numbered \_\_\_\_ through \_\_\_\_, inclusive (*fill in blanks*).

2. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications:

**ALTERNATE #1 (Deductive): Reduce Size of Batting Cage**

**ADD:\$** \_\_\_\_\_

**ALTERNATE #2 (Additive): Frame Walls at Batting Cage – (3) batting stations**

**ADD:\$** \_\_\_\_\_

**ALTERNATE #3 (Additive): Frame Walls at Batting Cage – (2) batting stations**

**ADD:\$** \_\_\_\_\_

**ALTERNATE #4 (Additive): Furnish and Install Batting Cage Safety nets – (3) batting stations**

**ADD:\$** \_\_\_\_\_

**ALTERNATE #5 (Additive): Furnish and Install Batting Cage Safety nets – (2) batting stations**

**ADD:\$** \_\_\_\_\_

**ALTERNATE #6 (Additive): Provide New Custom Lockers in Lieu of Reusing Existing Lockers**

**ADD:\$** \_\_\_\_\_

3. The work shall be completed within the time stipulated and specified in Section B-3 Supplemental Instructions to Bidders.

4. The Undersigned certifies that: (1) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (2) The contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety on any Bond furnished with the Bid and will not be communicated to such person prior to the official opening of the Bid.

5. The undersigned **HAS, HAS NOT** (*circle applicable status*) paid unemployment or



income taxes in Oregon within the past 12 months and **HAS, HAS NOT** (*circle applicable status*) a business address in Oregon.

6. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing rates of wage.

7. Contractor's CCB registration number is \_\_\_\_\_. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will render the bid unresponsive and it will be rejected, unless contrary to federal law.

8. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the Contract.

9. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is \_\_\_\_\_, Policy No. \_\_\_\_\_, and that Contractor shall submit Certificates of Insurance as required.

10. Contractor's Project Manager for this project is: \_\_\_\_\_, Office Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_.

11. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.

12. Accompanying herewith is Bid Security which is equal to ten (10) percent of the total amount of the Basic Bid.

13. The Undersigned further agrees that the Bid Security accompanying the Bid is left in escrow with the Board; that the amount thereof is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above-named Agreement Form, Performance Bond and Payment Bond, and, that if the Undersigned defaults in either executing the Agreement Form or providing the Performance Bond and Payment Bond within twenty (20) calendar days after receiving the Contract Documents, then the Bid Security may become the property of the Owner at the Owner's option; but if the Bid is not accepted within thirty (30) calendar days of the time set for the opening of the Bids, or if the Undersigned executes and timely delivers said Agreement Form, Performance Bond and Payment Bond, the Bid Security shall be returned.

14. The Undersigned agrees, if awarded the Contract, to execute and deliver to Owner, within twenty (20) calendar days after receiving the Contract Documents, an Agreement Form and a satisfactory Performance Bond and Payment Bond, each in an amount equal to one hundred (100) percent of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

\_\_\_\_\_.

*(name of surety company - not insurance agency)*

The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_

FEDERAL TAX ID \_\_\_\_\_

TELEPHONE NO \_\_\_\_\_

FAX NO \_\_\_\_\_

SIGNATURE 1) \_\_\_\_\_

Sole Individual

or 2) \_\_\_\_\_

Partner

or 3) \_\_\_\_\_

Authorized Officer of Corporation

(SEAL)

\_\_\_\_\_  
Attested: Secretary of Corporation

*Payment information will be reported to the IRS under the name and taxpayer ID # provided above. Information not matching IRS records could subject Contractor to 31 percent backup withholding.*

**\*\*\*\*\* END OF BID \*\*\*\*\***

**RETAINER CONTRACT SUPPLEMENT  
OUS RETAINER CONTRACT FOR CONSTRUCTION  
RELATED SERVICES**

Supplement No.  
Project Name  
Owner's Project  
Manager

This Retainer Contract Supplement dated \_\_\_\_\_ (the "Supplement") is entered into between:

"Contractor":

Federal Tax ID No.

and "Owner":

The State of Oregon, acting by and through the State  
Board of Higher Education, on behalf of:

(collectively, the "Parties") pursuant to the Retainer Contract for Construction Related Services between the Parties terminating June 30, 2014 (the "Retainer Contract"). Capitalized terms have the meaning defined in the OUS Retainer General Conditions unless otherwise defined in the Retainer Contract or herein.

- 1. DESCRIPTION OF THE PROJECT.** The project to which this Supplement pertains is described as follows: \_\_\_\_\_ (the "Project").
- 2. WORK TO BE PERFORMED.** Contractor shall perform the following work on the Project : \_\_\_\_\_ (the "Work"). Contractor will perform the Work according to the terms and conditions of this Supplement and the Contract Documents, which are incorporated herein by this reference.
- 3. SCHEDULE.** Contractor shall perform the Work according to the following schedule: \_\_\_\_\_ (the "Schedule").
- 4. COMPENSATION.** Owner shall compensate Contractor for Work  (a) in the firm, fixed-price amount of \$ \_\_\_\_\_; or  (b) on a time and materials basis subject to a maximum not-to-exceed price of \$ \_\_\_\_\_; in accordance with the requirements of the OUS Retainer General Conditions. If the Work is performed on a time and materials basis, Contractor's listing of wage rates, material unit costs and overhead charges for the Work is attached to this Supplement.

The cost of the Work under this Supplement, even if this Supplement is later amended to include additional work, must not exceed the greater of \$1,000,000 or the maximum allowable under

OAR 580-063-0030.

**5. TERM.** This Supplement is effective on the date it has been signed by every Party hereto and all approvals required by Applicable Law have been obtained (the “Effective Date”). No Work shall be performed or payment made prior to the Effective Date. Contractor shall perform its obligations in accordance with the Contract Documents, unless this Supplement is earlier terminated or suspended.

**6. PERFORMANCE AND PAYMENT BONDS.** The performance and payment bond requirements for this Project are as follows (check one of the following):

As a condition precedent to the effectiveness of this Supplement and to Owner’s obligation to make payment for the Work, Contractor shall provide the Owner with a performance bond and a separate payment bond in a sum equal to the Contract Price stated in Section 4 of this Supplement.

This Project has a Contract price of \$100,000 or less, and Owner has determined that performance and payment bonds will not be required for this Project.

**7. MINIMUM WAGE RATES.**

Prevailing Wage Rates requirements do not apply to this Project because the maximum compensation for all Owner-contracted Work does not exceed \$50,000.

Prevailing Wage Rates requirements apply to this Project because the maximum compensation for all Owner-contracted Work is more than \$50,000. Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates and the required public works bond, as outlined in Sections C.1, C.2 and G.2.3 of the OUS Retainer General Conditions. The Bureau of Labor and Industries (BOLI) wage rates and requirements set forth in the following BOLI booklet (and any listed amendments to that booklet), which are incorporated herein by reference, apply to the Work authorized under this Supplement:

PREVAILING WAGE RATES for Public Works Contracts in Oregon, \_\_\_\_\_, 20\_\_\_\_, as amended \_\_\_\_\_, 20\_\_\_\_ [~~delete “as amended \_\_\_\_\_, 20\_\_\_\_” if there have been no amendments since last rate change~~], which can be downloaded at the following web address:

[[http://www.boli.state.or.us/BOLI/WHD/PWR/pwr\\_book.shtml](http://www.boli.state.or.us/BOLI/WHD/PWR/pwr_book.shtml)]

The Work will take place in \_\_\_\_\_ County, Oregon.

**8. TAX COMPLIANCE CERTIFICATION.** Contractor hereby certifies and affirms, under penalty of perjury as provided in ORS 305.385(6), that, to the best of Contractor’s knowledge, Contractor is not in violation of any of the tax laws described in ORS 305.380(4). For purposes of this certification, “tax laws” means a state tax imposed by ORS 320.005 to 320.150 and 403.200 to 403.250, ORS Chapters 118, 314, 316, 317, 318, 321 and 323; the elderly rental assistance program under ORS 310.630 to 310.706; and local taxes administered by the Oregon Department of Revenue under ORS 305.620.

**9. INSURANCE REQUIREMENTS.**

Contractor shall comply with and obtain the insurance coverage amounts stated in the OUS Retainer General Conditions.

The Owner has determined that the Contractor shall obtain insurance in the amount described in the Retainer Supplemental General Conditions, attached hereto.

**10. KEY PERSONS.**  If checked here, the following provision is incorporated into this Supplement:

The Parties agree that certain Contractor personnel are specifically valuable to the Project (“Key Persons”). Key Persons shall not be replaced during the Project without the written consent of Owner, which shall not be unreasonably withheld. If Contractor intends to substitute personnel, Owner shall receive the request at least 15 days prior to the effective date of substitution. When replacements have been approved by Owner, Contractor shall provide a transition period of at least 10 working days during which the original and replacement personnel shall be working on the Project concurrently. Upon authorization for the replacement of a Key Person, all subsequent substitutions of that Key Person shall require Owner’s written consent in accordance with this Section. The Key Persons for this Project are the following:

**Project Executive:** \_\_\_\_\_ shall be Contractor’s Project Executive, and will provide oversight and guidance throughout the Project term.

**Project Manager:** \_\_\_\_\_ shall be Contractor’s Project Manager and will participate in all meetings throughout the Project term.

**Job Superintendent:** \_\_\_\_\_ shall be Contractor’s on-site Job Superintendent throughout the Project term.

**Project Engineer:** \_\_\_\_\_ shall be Contractor’s Project Engineer, providing assistance to the Project Manager, and subcontractor and supplier coordination throughout the Project term.

**11. OTHER TERMS.** Except as specifically modified by this Supplement, all terms of the Retainer Contract remain unchanged.

**12. EXECUTION AND COUNTERPARTS.** This Supplement may be executed in several counterparts, each of which shall be an original, all of which shall constitute but one and the same instrument.

**Contractor hereby confirms and certifies that the representations, warranties, and certifications contained in the Retainer Contract remain true and correct as of the Effective Date of this Supplement.**

IN WITNESS HEREOF, the Parties have duly executed this Supplement as of the dates indicated below.

\_\_\_\_\_, Contractor

The State of Oregon, acting by and through

the State Board of Higher Education, on  
behalf of \_\_\_\_\_, Owner

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**OREGON UNIVERSITY SYSTEM**  
**SUPPLEMENTAL GENERAL CONDITIONS**

**To The**  
**GENERAL CONDITIONS**  
**FOR PUBLIC IMPROVEMENT CONTRACTS**

**Contract No. 2014-0626**

**Project Name: SOU Concessions Stand Remodel & New Batting Cage**

**The following modify the Oregon University System “General Conditions for Public Improvement Contracts”, July 1, 2012, (OUS General Conditions) for this Contract. Where a portion of the OUS General Conditions is modified by these Supplemental General Conditions, the unaltered portions shall remain in effect.**

**SG-1.** Section B.2.2 is modified as follows: Add the following:

"Should the Contractor request the assistance of Owner in the performance of any Work included in the Contract Documents, and should Owner, at its discretion, agree to provide such assistance, Owner may provide such assistance by using its own forces or by using another contractor. If Owner performs Work using Owner's own forces, Contractor shall pay Owner at the rate of one and one-half (1½) times the standard hourly rate of Owner's forces, plus related overhead and any direct non-salary costs. If Owner performs the Work using another contractor, Contractor shall pay Owner the amount of Owner's direct costs billed by the other contractor for the Work performed, plus the direct salary costs and related overhead and direct non-salary expenses of Owner's forces who are required to monitor that contractor's work. Work performed by Owner using Owner's own forces or those of another contractor shall not affect the Contractor's contractual duties under these provisions, including warranty provisions."

**SG-2.** Section B.4 is modified as follows: Revise to read:

“Contractor shall obtain and pay for all necessary permits and licenses, except for those specifically excluded in the Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Owner shall obtain and pay for the general building permit and pay for any specialty permits required for the Work. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite

notices to public authorities. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent or other proprietary rights and save harmless and blameless from loss, on account thereof, the State of Oregon, and its departments, divisions, members and employees.”

**SG-3.** Section E.2.9 is modified as follows: Add the following:

“Owner shall provide the Contractor with an electronic version of the desired reporting format at the time of execution of the Contract or GMP Amendment for the Contractor’s use in submittal of the report, which should be submitted both electronically and in hard copy.”

**SG-4.** Section F.2.4 is modified as follows: Add the following:

“Contractor shall verify that all mechanical or electrical equipment in the construction areas that may be affected by the Work is in working order and shall notify the Owner, in writing, of any equipment not in working order prior to the start of the Work. Start of Work will be considered as acknowledgement that all equipment is in good working order. Contractor shall be required to restore equipment to its original, or better, condition upon completion of the project.”

**SG-5.** Section G.3.4.1 is modified as follows: Replace the last two sentences of with the following:

"Combined single limit per occurrence shall not be less than \$5 million per occurrence, or the equivalent. Each annual aggregate limit shall not be less than \$5 million, when applicable. Should Contractor require Subcontractors to provide Commercial General Liability coverage for the benefit of Contractor, Contractor shall not require coverage in an amount exceeding \$2 million per occurrence, or the equivalent."

**SG-6.** Section G.3 is modified as follows: Add the following G.3.4.4:

“Professional Liability: Prior to the beginning of any work on Design Build Components, the Contractor shall provide to the Owner certificates of insurance for Commercial General Liability in an amount not less than \$1,000,000, including Product Liability and Completed Operations, from the manufacturers of Design Build components, unless such Design/Build components are “off-the-shelf” products purchased from a supplier. All such certificates shall be in compliance with the Owner’s contract requirements.

For those elements requiring design or calculations performed by a professional engineer, the Contractor shall obtain from the Engineer, if not an employee of Contractor, and provide to the Owner, similar certificates of Commercial General



Liability coverage. The Engineer shall also provide the Owner with proof of coverage for Professional Liability insurance covering any damages caused by any negligent error, omission, or any act for the project, its drawings and specifications, and all related work products of the Engineer. The policy may be either a practice based policy or a policy pertaining to the specific project. Professional Liability insurance to be provided shall have a combined single limit of not less than \$1,000,000.”

**SG-7.** Section H.2.1 is deleted and replaced with the following:

"Contractor shall provide, by or before the pre-construction conference, a detailed project Work schedule for review and acceptance by the Owner. The submitted schedule must illustrate Work by significant project components, significant labor trades, long lead items, broken down by building and/or floor where applicable. Each schedule item shall account for no greater than 5% of the monetary value of the project or 5% of the available time. Schedules with activities of less than one day or valued at less than 1% of the Contract shall be considered too detailed and shall not be accepted. Schedules lacking adequate detail, or unreasonably detailed, shall be rejected. Included within the schedule are the following: Notice to Proceed, Substantial Completion, and Final Completion. Contractor shall provide an updated, full project schedule with each payment request. In addition, twice monthly, the Contractor shall provide an updated three-week forward-looking schedule. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the contract completion date is float owned by the Owner. Use of the float shall be negotiated. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Period but after Contractor's scheduled completion."

# OREGON UNIVERSITY SYSTEM

## GENERAL CONDITIONS FOR RETAINER CONTRACTS

July 1, 2012

INSTRUCTIONS: The attached **Oregon University System General Conditions for Retainer Contracts ("OUS Retainer General Conditions")** apply to all designated retainer contracts. Changes to the OUS Retainer General Conditions (including any additions, deletions or substitutions) should only be made by attaching Retainer Supplemental General Conditions. The text of these OUS Retainer General Conditions should not otherwise be altered.

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**OREGON UNIVERSITY SYSTEM  
GENERAL CONDITIONS FOR RETAINER CONTRACTS  
("OUS Retainer General Conditions")**

**SECTION A  
GENERAL PROVISIONS**

**A.1 DEFINITION OF TERMS**

In the Contract Documents the following terms shall be as defined below:

**AMENDMENT**, means a writing which, when fully executed by the Parties to this Contract, constitutes a change to a Contract Document. Amendments to Supplements (hereinafter a "Supplement Amendment") shall be issued in accordance with the changes provisions of Section D and, if applicable, establish a Contract Price or Contract Time adjustment.

**APPLICABLE LAWS**, means federal, state and local laws, codes, rules, regulations and ordinances applicable to the Work and to the Contract.

**ARCHITECT/ENGINEER**, means the Person appointed by the Owner to make drawings and specifications and, to provide contract administration of the Work contemplated by the Contract to the extent provided herein or by supplemental instruction of Owner (under which Owner may delegate responsibilities to the Architect/Engineer), in accordance with ORS Chapter 671 (Architects) or ORS Chapter 672 (Engineers) and administrative rules adopted thereunder.

**CHANGE ORDER**, means a written order issued by the Owner to be later included as an Amendment. A Change Order shall not be effective until codified as an Amendment.

**CLAIM**, means a demand by Contractor pursuant to Section D.3 for review of the denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, submitted in accordance with the requirements and within the time limits established for review of Claims in these OUS Retainer General Conditions.

**CONSTRUCTION CHANGE DIRECTIVE**, means a written order by the Owner to the Contractor requiring a change in the Work within the general scope of the Contract Documents, issued under the changes provisions of Section D.

**CONTRACT**, means the written agreement between the Owner and the Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

**CONTRACT DOCUMENTS**, means the Solicitation Document and addenda thereto, Instructions to Offerors, Supplemental Instructions to Offerors, the OUS Retainer Contract, OUS Retainer General Conditions, Retainer Supplemental General Conditions, if any, the accepted Offer, Plans, Specifications, Supplements, Amendments, and Construction Change Directives .

**CONTRACT PERIOD**, as set forth in the Contract Documents, means the total period of time beginning with the full execution of a Supplement and, if applicable, the issuance of a Notice to Proceed and concluding upon Final Completion.

**CONTRACT PRICE**, means the total of the awarded Offer amount, as increased or decreased by the price of approved alternates, as indicated in the Contract Documents.

**CONTRACT TIME**, means any incremental period of time allowed under the Contract to complete any portion of the Work as reflected in the project schedule.

**CONTRACTOR**, means the Person awarded the Contract for the Work contemplated.

**DAYS**, are calendar days, including weekdays, weekends and holidays, unless otherwise specified.

**DIRECT COSTS**, means, unless otherwise provided in the Contract Documents, the cost of materials, including sales tax, cost of delivery; cost of labor, including social security, Medicare and unemployment insurance, and fringe benefits required by agreement or custom; worker's compensation insurance; project specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater); bond premiums, rental cost of equipment, and machinery required for execution of the Work; and the additional costs of field personnel directly attributable to the Work.

**FINAL COMPLETION**, means the final completion of all requirements under the Contract, including Contract Closeout as described in Section K but excluding Warranty Work as described in Section I.2, and the final payment and release of all retainage, if any, released.

**FORCE MAJEURE**, means an act, event or occurrence caused by fire, riot, war, acts of God, nature, sovereign, or public enemy, strikes, freight embargoes or any other act, event or occurrence that is beyond the control of the party to this Contract who is asserting Force Majeure.

**MWESB REPORT**, means an accurate report by the Contractor to the Owner identifying all Minority, Women and Emerging Small Business (MWESB) enterprises, as those terms are defined in ORS 200.005, receiving contracts throughout the course of the Work. An initial MWESB report is required (see Section E.2.9) and MWESB Reports are required annually (see Section E.2.9) and as a condition of final payment (see Section K.1). The initial report shall include the total number of contracts and subcontracts awarded to MWESB enterprises and the dollar value of their respective contracts and subcontracts. The annual reports shall include the total number of contracts and subcontracts awarded to MWESB enterprises, the dollar value of each, and the expenditure toward each contract and subcontract during the previous twelve (12) months. The final report shall include the total number of contracts and subcontracts awarded to MWESB enterprises and the dollar value of their respective contracts and subcontracts including all Supplements and Amendments incorporated during the course of the project. The reports shall only include enterprises certified with the State of Oregon as MWESB enterprises and shall include individual identification of each enterprise as a Minority business enterprise, a Women business enterprise, and/or an Emerging Small Business Enterprise, as applicable.

**NOTICE TO PROCEED**, means the official written notice from the Owner stating that the Contractor is to proceed with the Work defined in the Contract Documents. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted to Owner in a suitable form.

**OFFER**, means a bid in connection with Instructions to Bidders or a proposal in connection with a Request for Proposals.

**OFFEROR**, means a bidder in connection with Instructions to Bidders or a proposer in connection with a Request for Proposals.

**OVERHEAD**, means those items which may be included in the Contractor's markup (general and administrative expense and profit)

and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), expenses of Contractor's offices and supplies at the job site (e.g. job trailer) and at Contractor's principal place of business and including expenses of personnel staffing the job site office and Contractor's principal place of business, and Commercial General Liability Insurance and Automobile Liability Insurance.

**OWNER**, means the State of Oregon acting by and through the Oregon State Board of Higher Education, in its own right or on behalf of one of its institutions as identified in the Solicitation Document, also known as the Oregon University System (OUS). Owner may elect, by written notice to Contractor, to delegate certain duties to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these OUS Retainer General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

**PERSON**, means a natural person or entity doing business as a sole proprietorship, a partnership, a joint venture, a corporation, a limited liability company or partnership, or any other entity possessing the legal capacity to contract.

**PLANS**, means the drawings which show the location, type, dimensions, and details of the Work to be done under the Contract.

**PUNCH LIST**, means the list of Work yet to be completed or deficiencies which need to be corrected in order to achieve Final Completion of the Contract.

**RECORD DOCUMENT**, means the as-built Plans, Specifications, testing and inspection records, product data, samples, manufacturer and distributor/supplier warranties evidencing transfer of ownership to Owner, operational and maintenance manuals, shop drawings, Construction Change Directives, MWESB Reports, correspondence, certificate(s) of occupancy, and other documents listed in Subsection B.9.1 of these OUS Retainer General Conditions, recording all Services performed.

**SOLICITATION DOCUMENT**, means Instructions to Bidders or Offerors or a Request for Proposal or a Request for Quotes.

**SPECIFICATION**, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the method and manner of doing the Work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

**SUBCONTRACTOR**, means a Person having a direct contract with the Contractor, or another Subcontractor, to perform one or more items of the Work.

**SUBSTANTIAL COMPLETION**, means the date when the Owner accepts in writing the construction, alteration or repair of the improvement to real property constituting the Work or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.4.2.

**SUBSTITUTIONS**, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Approval of any substitute item shall be solely determined by the Owner. The decision of the Owner is final.

**SUPPLEMENT**, means a writing which, when fully executed by the Parties thereto, constitutes written agreement between the Owner and the Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

**RETAINER SUPPLEMENTAL GENERAL CONDITIONS**, means those conditions that remove from, add to, or modify these OUS Retainer General Conditions. Retainer Supplemental General Conditions may be included in the Solicitation Document or may be a separate attachment to the Contract.

**WORK**, means the furnishing of all materials, equipment, labor, transportation, services and incidentals necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by the Contract Documents.

## **A.2 SCOPE OF WORK**

The Work contemplated under this Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all construction work in connection with the project described in the Contract Documents. The Contractor shall perform all Work necessary so that the project can be legally occupied and fully used for the intended use as set forth in the Contract Documents.

## **A.3 INTERPRETATION OF CONTRACT DOCUMENTS**

A.3.1 Unless otherwise specifically defined in the Contract Documents, words which have well-known technical meanings or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Contract Documents are intended to be complementary. Whatever is called for in one, is interpreted to be called for in all. However, in the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following descending order of precedence:

- (a) Contract Supplements, Amendments and Construction Change Directives, with those of later date having precedence over those of an earlier date;
- (b) The Retainer Supplemental General Conditions;
- (c) The OUS Retainer Contract;
- (d) The OUS Retainer General Conditions;
- (e) Division One (General Requirements) of the Specifications;
- (f) Detailed Schedules of finishes, equipment and other items included in the Specifications;
- (g) Plans and Specifications (other than Division One and the Detailed Schedules to the Specifications);
- (h) Large-scale drawings on Plans;
- (i) Small-scale drawings on Plans;
- (j) Dimension numbers written on Plans which shall prevail and take precedence over dimensions scaled from Plans;
- (k) The Solicitation Document, and any addenda thereto;
- (l) The accepted Offer.

A.3.2 In the case of an inconsistency between Plans and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Owner's interpretation in writing.

A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their

meaning, the Contractor shall at once notify the Owner. Matters concerning and interpretation of requirements of the Contract Documents will be decided by the Owner, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness. Interpretations and decisions of the Owner (or Architect/Engineer) will be consistent with the intent of and reasonably inferable from the Contract Documents. Contractor shall not proceed without direction in writing from the Owner (or Architect/Engineer).

- A.3.4 References to standard specifications, manuals, codes of any technical society, organization or association, to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws or regulations in effect in the jurisdiction where the project is occurring on the first published date of the Solicitation Document, except as may be otherwise specifically stated.

#### **A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE**

- A.4.1 It is understood that the Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. The Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by the Contractor as a result of the Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of the Owner, or with the Architect/Engineer either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.
- A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of the Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce first quality finished Work shall be considered a part of the Contract requirements.
- A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner, including without limitation, any nonconformity with Applicable Laws.
- A.4.4 If the Contractor believes that adjustments to cost or Contract Time is involved because of clarifications or instructions issued by the Owner (or Architect/Engineer) in response to the Contractor's notices or requests for information, the Contractor must submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If the Owner denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from the clarifications or instructions, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If the Contractor fails to perform the obligations of Sections A.4.1 to A.4.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

#### **A.5 INDEPENDENT CONTRACTOR STATUS**

The service or services to be performed under this Contract are those of an independent contractor as defined in ORS 670.600. Contractor represents and warrants that it is not an officer, employee or agent of the Owner as those terms are used in ORS 30.265.

#### **A.6 RETIREMENT SYSTEM STATUS AND TAXES**

Contractor represents and warrants that it is not a contributing member of the Public Employees' Retirement System and will be responsible for any federal or state taxes applicable to payment received under this Contract. Contractor will not be eligible for any benefits from these Contract payments of federal Social Security, employment insurance, workers' compensation or the Public Employees' Retirement System, except as a self-employed individual. Unless the Contractor is subject to backup withholding, Owner will not withhold from such payments any amount(s) to cover Contractor's federal or state tax obligations.

#### **A.7 GOVERNMENT EMPLOYMENT STATUS**

- A.7.1 If this payment is to be charged against federal funds, Contractor represents and warrants that it is not currently employed by the Federal Government. This does not preclude the Contractor from holding another contract with the Federal Government.
- A.7.2 Contractor represents and warrants that Contractor is not an employee of the State of Oregon for purposes of performing Work under this Contract

### **SECTION B ADMINISTRATION OF THE CONTRACT**

#### **B.1 OWNER'S ADMINISTRATION OF THE CONTRACT**

- B.1.1 The Owner shall administer the Contract as described in the Contract Documents (1) during construction (2) until final payment is due and (3) during the one-year period for correction of Work. The Owner will act as provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.
- B.1.2 The Owner will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Owner will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.
- B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall communicate with each other about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.
- B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

**B.2 CONTRACTOR'S MEANS AND METHODS;  
MITIGATION OF IMPACTS**

- B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures.
- B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the project, including those caused by authorized changes, which may affect cost, schedule, or quality.
- B.2.3 The Contractor is responsible for the actions of all its personnel, laborers, suppliers, and Subcontractors on the project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

**B.3 MATERIALS AND WORKMANSHIP**

- B.3.1 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.
- B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's expense.
- B.3.3 Work done and materials furnished shall be subject to inspection and/or observation and testing by the Owner to determine if they conform to the Contract Documents. Inspection of the Work by the Owner does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.
- B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.
- B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner and include the cost of the Samples in the Contract Price.

**B.4 PERMITS**

Contractor shall obtain and pay for all necessary permits, licenses and fees, except for those specifically excluded in the Retainer Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities.

**B.5 COMPLIANCE WITH GOVERNMENT  
REGULATIONS**

- B.5.1 Contractor shall comply with Applicable Laws pertaining to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable:
- (i) Title VI and VII of Civil Rights Act of 1964, as amended;
  - (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended;
  - (iii) the Health Insurance Portability and Accountability Act of 1996;
  - (iv) the Americans with Disabilities Act of 1990, as amended;
  - (v) ORS Chapter 659A; as amended;
  - (vi) all regulations and administrative rules established pursuant to the foregoing laws; and
  - (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.
- B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations, and
- (a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.
  - (b) Contractor shall maintain, in current and valid form, all licenses and certificates required by Applicable Laws or this Contract when performing the Work.
- B.5.3 Unless contrary to federal law, Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work as described in ORS 701.005 under this Contract unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time they submit their bids to the Contractor.
- B.5.4 Unless contrary to federal law, Contractor shall certify that each landscape contractor, as defined in ORS 671.520(2), performing Work under this Contract holds a valid landscape contractor's license issued pursuant to ORS 671.560.
- B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (503)232-1987.
- B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

**B.6 SUPERINTENDENCE**

Contractor shall keep on the site, during the progress of the Work, a competent superintendent and any necessary assistants who shall be satisfactory to the Owner and who shall represent the Contractor on the site. Directions given to the superintendent by the Owner shall be confirmed in writing to the Contractor.

**B.7 INSPECTION**

- B.7.1 Owner shall have access to the Work at all times.
- B.7.2 Inspection of the Work will be made by the Owner at its discretion. The Owner will have authority to reject Work that does not conform to the Contract Documents. Any Work found to be not in conformance with the Contract Documents, in the

discretion of the Owner, shall be removed and replaced at the Contractor's expense.

- B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by Applicable Laws or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.
- B.7.4 As required by the Contract Documents, Work done or material used without required inspection or testing and/or without providing timely notice to the Owner may be ordered removed at the Contractor's expense.
- B.7.5 If directed to do so any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without required testing or inspection or sufficient notice to the Owner, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the Owner, the uncovering and restoration will be paid for pursuant to a Supplement Amendment.
- B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's and Architect/Engineer's services and expenses, shall be at the Contractor's expense.
- B.7.7 When the United States government participates in the cost of the Work, or the Owner has an agreement with other public or private organizations, or if any portion of the Work is being performed for a third party or in close proximity to third party facilities, representatives of these organizations shall have the right to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner.

#### **B.8 SEVERABILITY**

If any provision of this Contract is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular provision held to be invalid.

#### **B.9 ACCESS TO RECORDS**

- B.9.1 Contractor shall keep, at all times on the Work site, one record copy of the complete Contract Documents, including the Plans, Specifications, Construction Change Directives and addenda, in good order and marked currently to record field changes and selections made during construction, and one record copy of Shop Drawings, Product Data, Samples and similar submittals, and shall at all times give the Owner access thereto.

- B.9.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or this Contract shall be subject to litigation, Contractor shall retain all such records until all litigation is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

#### **B.10 WAIVER**

Failure of the Owner to enforce any provision of this Contract shall not constitute a waiver or relinquishment by the Owner of the right to such performance in the future nor of the right to enforce any other provision of this Contract.

#### **B.11 SUBCONTRACTS AND ASSIGNMENT**

- B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these OUS Retainer General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.
- B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.

- B.11.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under this Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of this Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

#### **B.12 SUCCESSORS IN INTEREST**

The provisions of this Contract shall be binding upon and shall accrue to the benefit of the parties to the Contract and their respective permitted successors and assigns.

#### **B.13 OWNER'S RIGHT TO DO WORK**

Owner reserves the right to perform other or additional work at or near the project site with other forces than those of the Contractor. If such work takes place within or next to the project site, Contractor shall coordinate work with the other contractors or forces, cooperate with all other contractors or forces, carry out the Work in a way that will minimize interference and delay for all forces involved, place and



dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

#### **B.14 OTHER CONTRACTS**

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of this Contract. The Contractor of this Contract shall fully cooperate with any and all other contractors without additional cost to the Owner in the manner described in section B.13.

#### **B.15 GOVERNING LAW**

This Contract shall be governed by and construed in accordance with the laws of the State of Oregon without regard to principles of conflict of laws.

#### **B.16 LITIGATION**

Any Claim between Owner and Contractor that arises from or relates to this Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Marion County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the State of Oregon on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR, BY EXECUTION OF THIS CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION B.16.

#### **B.17 ALLOWANCES**

B.17.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.

B.17.2 Unless otherwise provided in the Contract Documents:

- (a) when finally reconciled, allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- (b) Contractor's costs for unloading and handling at the site, labor, installation costs, Overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;
- (c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Amendment. The amount of the Amendment shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (2) changes in Contractor's costs under Section B.17.2(b).
- (d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

#### **B.18 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

B.18.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner if approval authority has not been delegated to the Architect/Engineer), a schedule and list of submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples which are described below:

- (a) Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any sub-subcontractor), manufacturer, supplier or distributor to illustrate some portion of the Work.
- (b) Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- (c) Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

B.18.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.

B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.

B.18.4 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect/Engineer.

B.18.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Supplement Amendment or Construction Change Directive has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect/Engineer's review or approval thereof.

B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner.

#### **B.19 SUBSTITUTIONS**

The Contractor may make Substitutions only with the consent of the Owner, after evaluation by the Owner and only in accordance with a Supplement Amendment or Construction Change Directive. Substitutions shall be subject to the requirements of the bid documents. By making requests for Substitutions, the Contractor: represents that the Contractor has personally investigated the proposed substitute product; represents that the Contractor will provide the same warranty for the Substitution that the Contractor would for the product originally specified unless approved otherwise; certifies that the cost data presented is complete and includes all related costs under this Contract including redesign costs, and waives all claims for additional costs related to the Substitution which subsequently become apparent; and will coordinate the installation of the accepted Substitution, making such changes as may be required for the Work to be completed in all respects.

#### **B.20 USE OF PLANS AND SPECIFICATIONS**

Plans, Specifications and related Contract Documents furnished to Contractor by Owner or Owner's Architect/Engineer shall be used solely for the performance of the Work under this Contract. Contractor and its Subcontractors and suppliers are authorized to use and reproduce applicable portions of such documents appropriate to the execution of the Work, but shall not claim any ownership or other interest in them beyond the scope of this Contract, and no such interest shall attach. Unless otherwise indicated, all common law, statutory and other reserved rights, in addition to copyrights, are retained by Owner.

#### **B.21 FUNDS AVAILABLE AND AUTHORIZED**

Owner reasonably believes at the time of entering into this Contract that sufficient funds are available and authorized for expenditure to finance the cost of this Contract within the Owner's appropriation or limitation. Contractor understands and agrees that, to the extent that sufficient funds are not available and authorized for expenditure to finance the cost of this Contract, Owner's payment of amounts under this Contract attributable to Services performed after the last day of the current biennium is contingent on Owner receiving from the Oregon Legislative Assembly appropriations, limitations or other expenditure authority sufficient to allow Owner, in the exercise of its reasonable administrative discretion, to continue to make payments under this Contract.

#### **B.22 NO THIRD PARTY BENEFICIARIES**

Owner and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly, or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

### **SECTION C WAGES AND LABOR**

#### **C.1 MINIMUM WAGE RATES ON PUBLIC WORKS**

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Documents establishing those conditions, as determined by the Commissioner of the Bureau of Labor and Industries (BOLI), are included as attachments to or are incorporated by reference in the Contract Documents. Pursuant to ORS 279C.830(1)(d), Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts. If the Work is subject to both the state prevailing wage rate law and the federal Davis-Bacon Act, Contractor shall pay the higher of the applicable state or federal prevailing rate of wage. Contractor shall provide written notice to all workers of the number of hours per day and days per week such workers may be required to work.

#### **C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS**

C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner, on the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the project and further certifying that no worker employed on the project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement, and, that to the Contractor's or Subcontractor's best knowledge and belief, the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the project shall be submitted once a month, by the fifth business day of the following month. The Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.

C.2.2 Pursuant to ORS 279C.845(7), the Owner shall retain 25 percent of any amount earned by the Contractor on this public works project until the Contractor has filed the certified statements required by section C.2.1. The Owner shall pay to the Contractor the amount retained under this subsection within 14 days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.

C.2.3 Pursuant to ORS 279C.845(8), the Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this public works project until the first-tier Subcontractor has

filed with the Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 days after the first-tier Subcontractor files the required certified statement the Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.

- C.2.4 In accordance with statutory requirements and administrative rules promulgated by the Commissioner of the Bureau of Labor and Industries, the fee required by ORS 279C.825(1) will be paid by Owner to the Commissioner.

### **C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS**

C.3.1 As a condition to Owner's performance hereunder, the Contractor shall:

C.3.1.1 Make payment promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the Work provided for in this Contract.

C.3.1.2 Pay all contributions or amounts due the State Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the Contract.

C.3.1.3 Not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or assign any sums due by Owner, to Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.

C.3.1.4 Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

C.3.2 As a condition to Owner's performance hereunder, if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor of a Subcontractor by any person in connection with the project as such claim becomes due, the proper officer(s) representing the Owner may pay the claim and charge the amount of the payment against funds due or to become due Contractor under this Contract. Payment of claims in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

C.3.3 Contractor shall include in each subcontract for property or services entered into by the Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract, a payment clause that obligates the Contractor to pay the first-tier Subcontractor for satisfactory performance under its subcontract within ten (10) Days out of such amounts as are paid to the Contractor by the public contracting agency under such contract.

C.3.4 All employers, including Contractor, that employ subject workers who work under this contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its Subcontractors complies with these requirements.

### **C.4 PAYMENT FOR MEDICAL CARE**

As a condition to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, all sums of which the Contractor

agrees to pay for such services and all moneys and sums which the Contractor has collected or deducted from the wages of personnel pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

### **C.5 HOURS OF LABOR**

As a condition to Owner's performance hereunder, no person shall be employed to perform Work under this Contract for more than ten (10) hours in any one day or forty (40) hours in any one week, except in cases of necessity, emergency or where public policy absolutely requires it. In such instances, Contractor shall pay the employee at least time and a half pay:

- (a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or
- (b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and
- (c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

This section C.5 will not apply to Contractor's Work under this Contract to the extent Contractor is currently a party to a collective bargaining agreement with any labor organization.

This Section C.5 shall not excuse Contractor from completion of the Work within the time required under this Contract.

## **SECTION D CHANGES IN THE WORK**

### **D.1 CHANGES IN WORK**

D.1.1 The terms of this Contract shall not be waived, altered, modified, supplemented or amended in any manner whatsoever, without prior written agreement and then only after any necessary approvals have been obtained. A Supplement or Amendment is required, which shall not be effective until its execution by the parties to this Contract and all approvals required by public contracting laws have been obtained.

D.1.2 It is mutually agreed that changes in Plans, quantities, or details of construction are inherent in the nature of construction and may be necessary or desirable during the course of construction. Within the general scope of this Contract, the Owner may at any time, without notice to the sureties and without impairing the Contract, require changes consistent with this Section D.1. All changes to the Work shall be documented and Amendments shall be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:

- (a) Modification of specifications and design.
- (b) Increases or decreases in quantities.
- (c) Increases or decreases to the amount of Work.
- (d) Addition or elimination of any Work item.
- (e) Change in the duration of the project.
- (f) Acceleration or delay in performance of Work.
- (g) Deductive changes.

Deductive changes are those that reduce the scope of the Work, and shall be made by mutual agreement whenever feasible. In cases of suspension or partial termination under Section J, Owner reserves the right to unilaterally impose a deductive change and to self perform such Work, for which the provisions of B.13 (Owner's Right to Do Work) shall then apply. Adjustments in compensation shall be made under the provisions of D.1.3, in which costs for deductive changes shall be based upon a Direct Costs adjustment together with the related

percentage markup specified for profit, Overhead and other indirect costs, unless otherwise agreed to by Owner.

D.1.3 The Owner and Contractor agree that adjustments to or deletions from the Work shall be administered and compensated according to the following:

- (a) Unit pricing may be utilized at the Owner’s option when unit prices or solicitation alternates were provided that established the cost for adjustments to Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the adjustment to Work.
- (b) If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for adjustments to or deletions from the Work. In fixed pricing the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Notwithstanding the foregoing, the mark-ups set forth in D.1.3(c) shall be utilized in establishing fixed pricing, and such mark-ups shall not be exceeded. Cost and price data relating to adjustments to or deletions from the Work shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.
- (c) In the event that unit pricing and fixed pricing are not utilized, then adjustments to or deletions from the Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. In addition, the following markups shall be added to the Contractor’s or Subcontractor’s Direct Costs as full compensation for profit, Overhead and other indirect costs for Work directly performed with the Contractor’s or Subcontractor’s own forces:

On Labor.....	15%
On Equipment.....	10%
On Materials.....	10%

- (d) When adjustments to or deletions from the Work under D.1.3(c) are invoiced by an authorized Subcontractor at any level, each ascending tier Subcontractor or Contractor will be allowed a supplemental mark-up on each piece of subcontract Work covered by a an Amendment as follows:

\$0.00 - \$5,000.00	10%, and then
Over \$5,000.00	5%

Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs that were incurred by the Contractor or by other forces furnished by the Contractor, including Subcontractors, for adjustments to or deletions from the Work pursuant to a Supplement Amendment. Owner may establish a maximum cost for additional Work under this Section D.1.3, which shall not be exceeded for reimbursement without additional written authorization from Owner in the form of a Supplement Amendment. Contractor shall not be required to complete such additional Work without additional authorization.

D.1.4 Any necessary adjustment of Contract Time that may be required as a result of adjustments to or deletions from the Work must be agreed upon by the parties before the start of the revised Work unless Owner authorizes Contractor to start the revised Work before agreement on Contract Time adjustment. Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was

approved) as soon as possible but no later than thirty (30) Days after receipt of Owner’s request for additional Work . If Contractor’s request for additional compensation or adjustment of Contract Time is not made within the thirty (30) Day time limit, Contractor’s requests pertaining to that additional Work shall be barred. The thirty (30) Day time limit for making requests shall not be extended for any reason, including without limitation Contractor’s claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner denies Contractor’s request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.

D.1.5 If any adjustment to Work under Section D.1.3 causes an increase or decrease in the Contractor’s cost of, or the Contract Time required for the performance of any other part of the Work under this Contract, Contractor shall submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of Owner’s request for adjustments to or deletions from the Work by Contractor.

The thirty (30) Day time limit applies to claims of Subcontractors, suppliers, or manufacturers who may be affected by Owner’s request for adjustments to or deletions from the Work and who request additional compensation or an extension of Contract Time to perform; Contractor has responsibility for contacting its Subcontractors, suppliers, or manufacturers within the thirty (30) Day time limit, and including their requests with Contractor’s requests. If the request involves Work to be completed by Subcontractors, or materials to be furnished by suppliers or manufacturers, such requests shall be submitted to the Contractor in writing with full analysis and justification for the adjustments to compensation and Contract Time requested. The Contractor shall analyze and evaluate the merits of the requests submitted by Subcontractors, suppliers, and manufacturers to Contractor prior to including those requests and Contractor’s analysis and evaluation of those requests with Contractor’s requests for adjustments to compensation or Contract Time that Contractor submits to the Owner. Failure of Subcontractors, suppliers, manufacturers or others to submit their requests to Contractor for inclusion with Contractor’s requests submitted to Owner within the time period and by the means described in this section shall constitute a waiver of these Subcontractor claims. The Owner will not consider direct requests or claims from Subcontractors, suppliers, manufacturers or others not a party to this Contract. The consideration of such requests and claims under this section does not give any Person, not a party to the Contract the right to bring a claim against Owner, whether in this claims process, in litigation, or in any dispute resolution process.

If the Owner denies the Contractor’s request for adjustment to compensation or Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

D.1.6 No request or Claim by the Contractor for additional costs or an adjustment of Contract Time shall be allowed if made after receipt of final payment application under this Contract. Final payment application must be made by Contractor within the time required under Section E.6.4.

D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor is notified that numerous changes may be required and that there will be no compensation made, unless and only to the extent otherwise provided in the Contract Documents, to the Contractor

directly related to the number of changes. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

## **D.2 DELAYS**

D.2.1 Delays in construction include "Avoidable Delays", which are defined in Section D.2.1.1, and "Unavoidable Delays", which are defined in Section D.2.1.2. The effect of Avoidable Delays is described in Section D.2.2 and the effect of Unavoidable Delays is described in Section D.2.3.

D.2.1.1 Avoidable Delays include any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that:

- (a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.
- (b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of neither other parts of the Work nor the completion of the whole Work within the Contract Time.
- (c) Do not impact activities on the accepted critical path schedule.
- (d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

D.2.1.2 Unavoidable Delays include delays other than Avoidable Delays that are:

- (a) To the extent caused by any actions of the Owner, or any other employee or agent of the Owner, or by separate contractor employed by the Owner.
- (b) To the extent caused by any site conditions which differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. The Contractor shall notify the Owner immediately of differing site conditions before the area has been disturbed. The Owner will investigate the area and make a determination as to whether or not the conditions differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and the agrees that a differing site condition exists, any adjustment to compensation or Contract Time will be determined based on the process set forth in Section D.1.5 for adjustments to or deletions from Work. If the Owner disagrees that a differing site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.
- (c) To the extent caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.
- (d) To the extent caused by adverse weather conditions. Any adverse weather conditions must be substantiated by documentary evidence that weather conditions were abnormal for the specific time period claimed, could not have been anticipated by the Contractor, and adversely impacted the project in a manner that could not be avoided by rescheduling the Work or by implementing measures to

protect against the weather so that the Work could proceed. A rain, windstorm, high water, or other natural phenomenon for the specific locality of the Work, which might reasonably have been anticipated from the previous 10-year historical records of the general locality of the Work, shall not be construed as abnormal. The parties agree that rainfall greater than the following levels cannot be reasonably anticipated:

- (i) Daily rainfall equal to, or greater than, 0.50 inch during a month when the monthly rainfall exceeds the normal monthly average by twenty-five percent (25 %) or more.
- (ii) daily rainfall equal to, or greater than, 0.75 inch at any time.

The Office of the Environmental Data Service of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce nearest the project site shall be considered the official agency of record for weather information.

D.2.2 Contractor shall not be entitled to additional compensation or additional Contract Time for Avoidable Delays.

D.2.3 In the event of Unavoidable Delays, based on principles of equitable adjustment, Contractor may be entitled to the following:

- (a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).
- (b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.3 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under Section D.2.1.2 (b), Contractor shall submit a written notification of the delay to the Owner within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor shall submit to the Owner, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

If Contractor does not timely submit the notices required under this Section D.2, then unless otherwise prohibited by law, Contractor's Claim shall be barred.

## **D.3 CLAIMS REVIEW PROCESS**

D.3.1 All Contractor Claims shall be referred to the Owner for review. Contractor's Claims, including Claims for adjustments to compensation or Contract Time, shall be submitted in writing by Contractor to the Owner within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits

established in these OUS Retainer General Conditions. Within thirty (30) Days after the initial Claim, Contractor shall submit to the Owner a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Unless the Claim is made in accordance with these time requirements, it shall be waived by Contractor.

- D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time adjustment requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner. The Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to this Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.
- D.3.3 The Owner will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment, recommend approval of all or part of the Claim; or (5) propose an alternate resolution.
- D.3.4 The Owner's decision shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.
- D.3.5 The decision of the Owner shall be final and binding unless the Contractor delivers to the Owner its request for mediation, which shall be a non-binding process, within fifteen (15) Days of the date of the Owner's decision. The mediation process will be considered to have commenced as of the date the Contractor delivers the request. Both parties acknowledge and agree that participation in mediation is a prerequisite to commencement of litigation of any disputes relating to the Contract. Both parties further agree to exercise their best efforts in good faith to resolve all disputes within sixty (60) Days of the commencement of the mediation through the mediation process set forth herein.
- In the event that a lawsuit must be filed within this sixty (60) Day period in order to preserve a cause of action, the parties agree that, notwithstanding the filing, they shall proceed diligently with the mediation to its conclusion prior to actively prosecuting the lawsuit, and shall seek from the Court in which the lawsuit is pending such stays or extensions, including the filing of an answer, as may be necessary to facilitate the mediation process. Further, in the event settlements are reached on any issues through mediation, the plaintiff shall promptly cause to be entered by the Court a stipulated general judgment of dismissal with prejudice, or other appropriate order limiting the cope of litigation as provided in the settlement.
- D.3.6 Should the parties arrive at an impasse regarding any Claims or disputed Claims, it is agreed that the parties shall participate in mediation as specified in Section D.3.5. The mediation process will be considered to have been commenced as of the date one

party delivers to the other its request in writing to mediate. The mediator shall be an individual mutually acceptable to both parties, but in the absence of agreement each party shall select a temporary mediator and the temporary mediators shall jointly select the permanent mediator. Each party shall pay its own costs for the time and effort involved in mediation. The cost of the mediator shall be split equally between the two parties. Both parties agree to exercise their best effort in good faith to resolve all disputes in mediation. Participation in mediation is a mandatory requirement of both the Owner and the Contractor. The schedule, time and place for mediation will be mutually acceptable, or, failing mutual agreement, shall be as established by the mediator. The parties agree to comply with Owner's administrative rules governing the confidentiality of mediation, if any, and shall execute all necessary documents to give effect to such confidentiality rules. In any event, the parties shall not subpoena the mediator or otherwise require the mediator to produce records, notes or work product, or to testify in any future proceedings as to information disclosed or representations made in the course of mediation, except to the extent disclosure is required by law.

- D.3.7 Unless otherwise directed by Owner, Contractor shall proceed with the Work while any Claim, or mediation or litigation arising from a Claim, is pending. Regardless of the review period or the final decision of the Owner, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease or Delay Work, in whole or in part, without a written stop work order from the Owner.

## **SECTION E PAYMENTS**

### **E.1 SCHEDULE OF VALUES**

The Contractor shall submit, at least ten (10) Days prior to submission of its first application for progress payment, a schedule of values ("Schedule of Values") for the contracted Work. This schedule shall provide a breakdown of values for the contracted Work and will be the basis for progress payments. The breakdown shall demonstrate reasonable, identifiable, and measurable components of the Work. Unless objected to by the Owner, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner, Contractor shall revise the schedule of values and resubmit the same for approval of Owner.

### **E.2 APPLICATIONS FOR PAYMENT**

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses, in accordance with the requirements of this Section E.2. Applications for payment shall be based upon estimates of Work completed and the Schedule of Values. As a condition precedent to Owner's obligation to pay, all applications for payment shall be approved by the Owner. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest for overdue invoices at the rate of two-thirds of one percent per month on the progress payment, not including retainage, due the Contractor. Overdue invoices will be those that have not been paid within forty five (45) days from the latest of:

- (a) The date of the receipt of the accurate invoice;
- (b) The date Owner receives the correct application for payment if no invoice is received;
- (c) The date all goods and services have been received; or
- (d) The date a Claim is made certain by agreement of the parties or by operation of law.

Notwithstanding the foregoing, in instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify the Contractor within fifteen (15) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute. A defective or improper application for payment, if corrected by the Contractor within seven (7) Days of being notified by the Owner, shall not cause a payment to be made later than specified in this section unless interest is also paid. Payment of interest will be postponed when payment on the principal is delayed because of disagreement between the Owner and the Contractor.

Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for such amounts which are correct and proper.

Owner, upon written notice to the Contractor, may elect to make payments to the Contractor only by means of Electronic Funds Transfers (EFT) through Automated Clearing House (ACH) payments. If Owner makes this election, the Contractor shall arrange for receipt of the EFT/ACH payments.

E.2.2 Contractor shall submit to the Owner an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor including payments to Subcontractors. Contractor shall include in its application for payment a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and shall include, on the face of each copy thereof, a certificate in substantially the following form:

"I, the undersigned, hereby certify that the above bill is true and correct, and the payment therefore, has not been received.

Signed: \_\_\_\_\_  
Dated: \_\_\_\_\_"

E.2.3 Generally, applications for payment will be accepted only for materials that have been installed. Under special conditions, applications for payment for stored materials will be accepted at Owner's sole discretion. Such a payment, if made, will be subject to the following conditions:

(a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.

(b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.

(c) The material shall be stored in a bonded warehouse and Owner shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.

(d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.

(e) Payments shall be made for materials and equipment only. The submitted amount in the application for payment shall be reduced by the cost of transportation from the storage site to the project site and for the cost of an inspector to verify delivery and condition of the goods at the storage site. The cost of storage and inspection shall be borne solely by the Contractor.

(f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material and/or equipment stored and of payment for the storage site.

(g) Payment for stored materials and/or equipment shall in no way indicate acceptance of the materials and/or equipment or waive any rights under this Contract for the rejection of the Work or materials and/or equipment not in conformance with the Contract Documents.

(h) All required documentation shall be submitted with the respective application for payment.

E.2.4 The Owner reserves the right to withhold all or part of a payment, or may nullify in whole or part any payment previously made, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss because of:

(a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with Applicable Laws or the Contract Documents,

(b) third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;

(c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.1);

(d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

(e) damage to the Work, Owner or another contractor;

(f) reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

(g) failure to carry out the Work in accordance with the Contract Documents; or

(h) assessment of liquidated damages, when withholding is made for offset purposes.

E.2.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

(a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by a Supplement Amendment;

(b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the site at a location agreed upon in writing), less retainage as provided in Section E.5;

(c) Subtract the aggregate of previous payments made by the Owner; and

(d) Subtract any amounts for which the Owner has withheld or nullified payment as provided in the Contract Documents.

E.2.6 Contractor's applications for payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier.

E.2.7 The Contractor warrants to Owner that title to all Work covered by an application for payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an application for payment all Work for which payments are received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided financing, labor, materials and equipment relating to the Work.

E.2.8 If Contractor disputes any determination by Owner with regard to any application for payment, Contractor nevertheless shall continue to expeditiously perform the Work. No payment made hereunder shall be or be construed to be final acceptance or approval of that portion of the Work to which such partial payment relates or shall relieve Contractor of any of its obligations hereunder.

E.2.9 Contractor shall submit its initial MWESB Report within ten (10) Days of Contractor's execution of the Contract, or if there will be a Guaranteed Maximum Price (GMP) Amendment, then within ten (10) Days of Contractor's execution of the GMP Amendment. Contractor shall submit annual MWESB Reports on June 30 of each year the Contract is active. Contracts (or GMP Amendments) first executed by Contractor within ninety (90) Days before June 30 of the year of execution by Contractor may at the discretion of Owner be exempt from submitting the annual MWESB Report otherwise due on that June 30. The final MWESB Report shall be filed with the application for final payment. Timely receipt of MWESB Reports by Owner shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

### **E.3 PAYROLL CERTIFICATION REQUIREMENT**

Owner's receipt of payroll certification pursuant to Section C.2 of this Contract shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

### **E.4 DUAL PAYMENT SOURCES**

Contractor shall not be compensated for Work performed under this Contract from any state agency other than the agency that is a party to this Contract.

### **E.5 RETAINAGE**

E.5.1 Retainage shall be withheld and released in accordance with the requirements set forth in OAR 580-063-0045.

E.5.1.1 Owner may reserve as retainage from any progress payment an amount not to exceed five percent of the payment. As Work progresses, Owner may reduce the amount of retainage on or may eliminate retainage on any remaining monthly Contract payments after 50 percent of the Work under the Contract is completed if, in the Owner's discretion, such Work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by the Contractor, which application shall include written approval of Contractor's surety; except that when the Work is 97-1/2 percent completed the Owner may, at its discretion and without application by the Contractor, reduce the retained amount to 100 percent of the value of the Work remaining to

be done. Upon receipt of written application by the Contractor, Owner shall respond in writing within a reasonable time.

E.5.1.2 Contractor may request in writing:

- (a) to be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds and securities of equal value with Owner or in a custodial account or other mutually-agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner;
- (b) for construction projects over \$1,000,000, that retainage be deposited in an interest bearing account, established through the State Treasurer for state agencies, in a bank, savings bank, trust company or savings association for the benefit of Owner, with earnings from such account accruing to the Contractor; or
- (c) that the Owner allow Contractor to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims in the manner and priority as set forth for retainage.

When the Owner has accepted the Contractor's election of option (a) or (b), Owner may recover from Contractor any additional costs incurred through such election by reducing Contractor's final payment. Where the Owner has agreed to Contractor's request for option (c), Contractor shall accept like bonds from Subcontractors and suppliers on the project from which Contractor has required retainages.

E. 5.1.3 The retainage held by Owner shall be included in and paid to the Contractor as part of the final payment of the Contract Price. The Owner shall pay to Contractor interest at the rate of two-thirds of one percent per month on the final payment due Contractor, interest to commence forty five (45) Days after the date which Owner receives Contractor's final approved application for payment and Work under the Contract has been completed and accepted and to run until the date when final payment is tendered to Contractor. The Contractor shall notify Owner in writing when the Contractor considers the Work complete and deliver to Owner its final application for payment and Owner shall, within fifteen (15) Days after receiving the written notice and the application for payment, either accept the Work or notify the Contractor of Work yet to be performed on the Contract. If Owner does not within the time allowed notify the Contractor of Work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run forty five (45) Days after the end of the 15-Day period.

E.5.1.4 Owner will reduce the amount of the retainage if the Contractor notifies the controller of the Owner that the Contractor has deposited in an escrow account with a bank or trust company, in a manner authorized by the Owner, bonds and securities of equal value of a kind approved by the Owner and such bonds and securities have in fact been deposited.

E.5.1.5 Contractor agrees that if Contractor elects to reserve a retainage from any progress payment due to any Subcontractor or supplier, such retainage shall not exceed five percent of the payment, and such retainage withheld from Subcontractors and suppliers shall be subject to the same terms and conditions stated in Subsection E.5 as apply to Owner's retainage from any progress payment due to Contractor.



## **E.6 FINAL PAYMENT**

- E.6.1 Upon completion of all the Work under this Contract, the Contractor shall notify the Owner, in writing, that Contractor has completed Contractor's obligations under the Contract and shall prepare its application requesting final payment. Upon receipt of such notice and application for payment, the Owner will inspect the Work, and, if acceptable, submit to the Owner a recommendation as to acceptance of the completed Work and the final estimate of the amount due the Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for final payment. Upon approval of this final application for payment by the Owner and compliance by the Contractor with provisions in Section K, and Contractor's satisfaction of other provisions of the Contract Documents as may be applicable, the Owner shall pay to the Contractor all monies due under the provisions of these Contract Documents.
- E.6.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to the Owner, (2) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (3) consent of surety, if any, to final payment and (4), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.
- E.6.3 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.
- E.6.4 Contractor agrees to submit its final payment application within ninety (90) Days after Substantial Completion, unless written extension is granted by Owner. Contractor shall not delay final payment application for any reason, including without limitation nonpayment of Subcontractors, suppliers, manufacturers or others not a party to this Contract, or lack of resolution of a dispute with Owner or any other person of matters arising out of or relating to the Contract. If Contractor fails to submit its final payment application within ninety (90) Days after Substantial Completion, and Contractor has not obtained written extension by Owner, all requests or Claims for additional costs or an extension of Contract Time shall be waived.

## **SECTION F JOB SITE CONDITIONS**

### **F.1 USE OF PREMISES**

Contractor shall confine equipment, storage of materials and operation of Work to the limits indicated by Contract Documents, Applicable Laws, permits or directions of the Owner. Contractor shall follow the Owner's instructions regarding use of premises, if any.

### **F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC**

- F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage and shall protect the Owner, workers and property from injury or loss arising in connection with this Contract. Contractor shall remedy acceptably to the Owner any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of the Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.
- F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the job site or otherwise engaged in the undertaking of the Work and shall comply with the Contract Documents, best practices and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Work site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner. The Owner has no responsibility for Work site safety. Work site safety shall be the responsibility of the Contractor.
- F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event the Contractor damages any property, the Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall, immediately and in writing, report to the Owner, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.
- F.2.4 Contractor shall be responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, vehicles and materials on the site.
- F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials shall be conducted so no release will occur that may pollute or become hazardous.
- F.2.6 In an emergency affecting the safety of life or limb or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with section D.

### **F.3 CUTTING AND PATCHING**

- F.3.1 Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.
- F.3.2 Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

#### **F.4 CLEANING UP**

From time to time as may be prudent or ordered by the Owner and, in any event, immediately after completion of the Work, the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within twenty-four hours after notification by the Owner the work may be done by others and the cost charged to the Contractor and deducted from payment due the Contractor.

#### **F.5 ENVIRONMENTAL CONTAMINATION**

F.5.1. Contractor shall be held responsible for and shall indemnify, defend (with counsel of Owner's choice), and hold harmless Owner from and against any costs, expenses, damages, claims, and causes of action, (including attorney fees), or any of them, resulting from all spills, releases, discharges, leaks and disposal of environmental pollution, including storage, transportation, and handling during the performance of the Work or Contractor's obligations under the Contract which occur as a result of, or are contributed by, the negligence or actions of Contractor or its personnel, agents, or Subcontractors or any failure to perform in accordance with the Contract Documents (except to the extent otherwise void under ORS 30.140). Nothing in this section F.5.1 shall limit Contractor's responsibility for obtaining insurance coverages required under Section G.3 of this Contract, and Contractor shall take no action that would void or impair such coverages.

F.5.1.1 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and regulatory agencies having jurisdiction in a manner that complies with Applicable Laws. Cleanup shall be at no cost to the Owner and shall be performed by properly qualified and, if applicable, licensed personnel.

F.5.1.2 Contractor shall obtain the Owner's written consent prior to bringing onto the Work site any (i) environmental pollutants or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any Applicable Laws. Notwithstanding such written consent from the Owner, the Contractor, at all times, shall:

- (a) properly handle, use and dispose of all environmental pollutants and hazardous substances or materials brought onto the Work site, in accordance with all Applicable Laws;
- (b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Work site; and
- (c) promptly clean up and remediate, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all Applicable Laws.

F.5.2 Contractor shall report all reportable quantity releases, as such releases are defined in Applicable Laws, including but not limited to 40 CFR Part 302, Table 302.4 and in OAR 340-142-0050, to applicable federal, state, and local regulatory and emergency response agencies. Upon discovery, regardless of quantity, Contractor must telephonically report all releases to the Owner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:

- (a) Description of items released (identity, quantity, manifest numbers, and any and all other documentation required by law.)

- (b) Whether amount of items released is EPA/DEQ reportable, and, if so, when reported.
- (c) Exact time and location of release, including a description of the area involved.
- (d) Containment procedures initiated.
- (e) Summary of communications about the release between Contractor and members of the press or State, local or federal officials other than Owner.
- (f) Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.
- (g) Personal injuries, if any, resulting from, or aggravated by, the release.

#### **F.6 ENVIRONMENTAL CLEAN-UP**

F.6.1 Unless disposition of environmental pollution is specifically a part of this Contract, or was caused by the Contractor (reference F.5 Environmental Contamination), Contractor shall immediately notify Owner of any hazardous substance(s) which Contractor discovers or encounters during performance of the Work required by this Contract. "Hazardous substance(s)" means any hazardous, toxic and radioactive materials and those substances defined as "hazardous substances," "hazardous materials," "hazardous wastes," "toxic substances," or other similar designations in any federal, state, or local law, regulation, or ordinance, including without limitation asbestos, polychlorinated biphenyl (PCB), or petroleum, and any substances, materials or wastes regulated by 40 CFR, Part 261 and defined as hazardous in 40 CFR S 261.3. In addition to notifying Owner of any hazardous substance(s) discovered or encountered, Contractor shall immediately cease working in any particular area of the project where a hazardous substance(s) has been discovered or encountered if continued work in such area would present a risk or danger to the health or well being of Contractor's or any Subcontractor's work force, property or the environment.

F.6.2 Upon being notified by Contractor of the presence of hazardous substance(s) on the project site, Owner shall arrange for the proper disposition of such hazardous substance(s).

#### **F.7 FORCE MAJEURE**

A party to this Contract shall not be held responsible for delay or default due to Force Majeure acts, events or occurrences unless they could have been avoided by the exercise of reasonable care, prudence, foresight, and diligence by that party. The Owner may terminate this Contract upon written notice after determining that delay or default caused by Force Majeure acts, events or occurrences will reasonably prevent successful performance of the Contract.

### **SECTION G INDEMNITY, BONDING, AND INSURANCE**

#### **G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY**

G.1.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under this Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, employees, guests, visitors, invitees and agents.

G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner, Architect/Engineer, Architect/Engineer's

consultants, and their respective officers, directors, agents, employees, partners, members, stockholders and affiliated companies (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses (including reasonable attorney fees), demands and actions of any nature whatsoever which arise out of, result from or are related to, (a) any damage, injury, loss, expense, inconvenience or delay described in this Section G.1., (b) any accident or occurrence which happens or is alleged to have happened in or about the project site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects, (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract, (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140), and (e) any lien filed upon the project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section G.1.2.

G.1.3 In claims against any person or entity indemnified under Section G.1.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section G.1.2 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

## **G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND**

G.2.1 When the Contract Price is \$100,000 or more (or \$50,000 or more in the case of Contracts for highways, bridges and other transportation projects), the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.

G.2.2 Bond forms furnished by the Owner and notarized by awarded Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.

G.2.3 Before execution of the Contract the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Laws 2005, Chapter 360, and OAR 839-025-0015, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

## **G.3 INSURANCE**

G.3.1 Primary Coverage: Insurance carried by Contractor under this Contract shall be the primary coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

G.3.2 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under this Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than the minimum amount required by statute for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

G.3.3 Builder's Risk Insurance:

G.3.3.1 Builder's Risk: During the term of this Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk forms, including earthquake and flood, for an amount equal to the full amount of the Contract, plus any changes in values due to modifications, Change Orders and loss of materials added. Such Builder's Risk shall include, in addition to earthquake and flood, theft, vandalism, mischief, collapse, transit, debris removal, and architect's fees "soft costs" associated with delay of project due to insured peril. Any deductible shall not exceed \$50,000 for each loss, except the earthquake and flood deductible which shall not exceed 2 percent of each loss or \$50,000, whichever is greater. The deductible shall be paid by Contractor if Contractor is negligent. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear.

G.3.3.2 Builder's Risk Installation Floater: For Work other than new construction, Contractor shall obtain and keep in effect during the term of this Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under this Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at their sole and absolute discretion.

G.3.3.3 Such insurance shall be maintained until Owner has occupied the facility.

G.3.3.4 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner as loss payee. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

G.3.4 General Liability Insurance:

G.3.4.1 Commercial General Liability: Upon issuance of a Supplement, Contractor shall obtain, and keep in effect at Contractor's expense for the term of the Supplement, Commercial General Liability Insurance covering bodily injury and property damage in the amount of \$1,000,000 per claim and \$2,000,000 per occurrence in a form satisfactory to Owner. This insurance shall include personal injury liability, products and completed operations, and contractual liability coverage for the

indemnities provided under this Contract (to the extent contractual liability coverage for the indemnity is available in the marketplace), and shall be issued on an occurrence basis.

- G.3.4.2 Automobile Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Automobile Liability Insurance covering owned, and/or hired vehicles, as applicable. The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance of not less than \$1,000,000 per claim and \$2,000,000 per occurrence. Contractor and its Subcontractors shall be responsible for ensuring that all non-owned vehicles maintain adequate Automobile Liability insurance while on site.
- G.3.4.3 Owner may adjust the insurance amounts required in Section G.3.4.1 and G.3.4.2 based upon institution specific risk assessments through the issuance of Supplemental General Conditions and a Supplement.
- G.3.4.4 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of this Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of this Contract. Owner's receipt of the policy endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).
- G.3.4.5: Umbrella Liability (if required by Owner through issuance of Supplemental General Conditions): Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Umbrella liability Insurance over and above the general liability, automobile liability and workers' compensation coverage if required by Owner in specified limits at time of requirement.
- G.3.4.6 Pollution Liability (if required by Owner through issuance of Supplemental General Conditions): Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Pollution liability Insurance in minimum amounts of \$3,000,000 naming Owner as "additional insured," as noted in the "additional insured section below.
- G.3.5 Additional Insured: The general liability insurance coverage, professional liability, umbrella, and pollution liability if required, shall include the Owner as additional insureds but only with respect to the Contractor's activities to be performed under this Contract.
- If Contractor cannot obtain an insurer to name the Owner as additional insureds, Contractor shall obtain at Contractor's expense, and keep in effect during the term of this Contract, Owners and Contractors Protective Liability Insurance, naming the Owner as additional insureds with not less than a \$2,000,000 limit per occurrence. This policy must be kept in effect for 36 months following Final Completion. As evidence of coverage, Contractor shall furnish the actual policy to Owner prior to execution of the Contract.
- G.3.6 Notice of Cancellation or Change: If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is

no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to this Contract, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner and its institutions, divisions, officers, and employees.

Owner shall have the right, but not the obligation, of prohibiting Contractor from entering the Work site until a new certificate(s) of insurance is provided to Owner evidencing the replacement coverage. The Contractor agrees Owner reserves the right to withhold payment to Contractor until evidence of reinstated or replacement coverage is provided to Owner.

- G.3.7 Certificate(s) of Insurance: As evidence of the insurance coverage required by this Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to execution of the Contract. The certificate(s) will specify all of the parties who are additional insureds or loss payees for this contract. Insurance coverage required under this Contract shall be obtained from insurance companies or entities acceptable to the Owner and that are eligible to provide such insurance under Oregon law. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to conduct an insurance business and issue policies of insurance in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and which are subject to approval by the Owner. The Contractor shall be financially responsible for all deductibles, self-insured retentions and/or self-insurance included hereunder. Any deductible, self-insured retention and/or self-insurance in excess of \$50,000 shall be subject to approval by the Owner in writing and shall be a condition precedent to the effectiveness of any Supplement.
- G.3.8 Retainer Contract Program: For the OUS Retainer Contract Program the term "Contract" as used in this Section G in the phrases "keep in effect during the term of this Contract" and "prior to execution of the Contract" shall mean each Retainer Contract Supplement issued under the Retainer Contract.

## **SECTION H SCHEDULE OF WORK**

### **H.1 CONTRACT PERIOD**

- H.1.1 Time is of the essence. The Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein. If required by the Contract Documents, Contractor shall commence Work on the site within fifteen (15) Days of Notice to Proceed, unless directed otherwise.
- H.1.2 Unless specifically extended by Supplement Amendment, all Work shall be complete by the date contained in the Contract Documents. The Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.1.2 (f) and shall be subject to the provisions of Section D.1.
- H.1.3 The Owner shall not waive any rights under the Contract by permitting the Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

### **H.2 SCHEDULE**

- H.2.1 Contractor shall provide, by or before the pre-construction conference, the initial as-planned schedule for review and acceptance by the Owner. The submitted schedule must illustrate Work by project components, labor trades, and long

lead items broken down by building and/or floor where applicable. If Owner shall so elect, Contractor shall provide the schedule in CPM format showing the graphical network of planned activities, including i) a reasonably detailed list of all activities required to complete the Work; ii) the time and duration that each activity will take to completion; and iii) the dependencies between the activities. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. The schedule shall include the following: Notice to Proceed or the date the Work commences, if no Notice to Proceed is issued by Owner, Substantial Completion, and Final Completion. Schedules shall be updated monthly, unless otherwise required by the Contract Documents, and submitted with the monthly application for payment. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

### **H.3 PARTIAL OCCUPANCY OR USE**

H.3.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have reasonably accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, insurance or self-insurance, maintenance, heat, utilities, and damage to the Work, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents with respect to such portion of the Work. Approval by the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

## **SECTION I CORRECTION OF WORK**

### **I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT**

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective. Contractor shall promptly remove from the premises and replace all defective materials and equipment as determined by the Owner, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to the Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective (Punch List) work. At the end of the thirty-day period, or earlier if requested by the Contractor, Owner shall arrange for inspection of the Work by the Architect/Engineer. Should the work not be complete, and all corrections made, the costs for all subsequent reinspections shall be borne by the Contractor. If Contractor fails to complete the Punch List work within the thirty (30) Day period, Owner may perform such work and Contractor shall reimburse Owner all costs

of the same within ten (10) Days after demand without affecting Contractor's obligations.

### **I.2 WARRANTY WORK**

I.2.1 Neither the final certificate of payment nor any provision of the Contract Documents shall relieve the Contractor from responsibility for defective Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by the Owner except for latent defects which will be remedied by the Contractor at any time they become apparent. The Owner shall give Contractor notice of defects with reasonable promptness. Contractor shall perform such warranty work within a reasonable time after Owner's demand. If Contractor fails to complete the warranty work within such period as Owner determines reasonable, or at any time in the event of warranty work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand, without affecting Contractor's obligations. The Contractor shall perform the warranty Work by correcting defects within twenty-four (24) hours of notification by Owner, unless otherwise specified in the Contract Documents. Should the Contractor fail to respond within the specified response time, the Owner may, at its option, complete the necessary repairs using another contractor or its own forces. If Owner completes the repairs using Owner's own forces, Contractor shall pay Owner at the rate of one and one-half (1½) times the standard hourly rate of Owner's forces, plus related overhead and any direct non-salary costs. If Owner completes the repairs using another contractor, Contractor shall pay Owner the amount of Owner's direct costs billed by the other contractor for the work, plus the direct salary costs and related overhead and direct non-salary expenses of Owner's forces who are required to monitor that contractor's work. Work performed by Owner using Owner's own forces or those of another contractor shall not affect the Contractor's contractual duties under these provisions, including warranty provisions.

I.2.2 Nothing in this Section I.2 provision shall negate guarantees or warranties for periods longer than one year including without limitation such guarantees or warranties required by other sections of the Contract Documents for specific installations, materials, processes, equipment or fixtures.

I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to the Owner and shall not take effect until such portion of the Work covered by the applicable warranty has been accepted in writing by the Owner.

I.2.4 The one-year period for correction of Work shall be extended with respect to portions of Work performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work, and shall be extended by corrective Work performed by the Contractor pursuant to this Section, as to the Work corrected. The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

I.2.6 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## **SECTION J**

### ***SUSPENSION AND/OR TERMINATION OF THE WORK***

#### **J.1 OWNER'S RIGHT TO SUSPEND THE WORK**

J.1.1 The Owner has the authority to suspend portions or all of the Work due to the following causes:

- (a) Failure of the Contractor to correct unsafe conditions;
- (b) Failure of the Contractor to carry out any provision of the Contract;
- (c) Failure of the Contractor to carry out orders;
- (d) Conditions, in the opinion of the Owner, which are unsuitable for performing the Work;
- (e) Time required to investigate differing site conditions;
- (f) Any reason considered to be in the public interest.

J.1.2 The Owner shall notify Contractor and the Contractor's Surety in writing of the effective date and time of the suspension, and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

#### **J.2 CONTRACTOR'S RESPONSIBILITIES**

J.2.1 During the period of the suspension, Contractor is responsible to continue maintenance at the project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.

J.2.2 When the Work is recommenced after the suspension, the Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the project in every respect as though its prosecution had been continuous and without suspension.

#### **J.3 COMPENSATION FOR SUSPENSION**

J.3.1 Depending on the reason for suspension of the Work, the Contractor or the Owner may be due compensation by the other party. If the suspension was required due to acts or omissions of Contractor, the Owner may assess the Contractor actual costs of the suspension in terms of administration, remedial work by the Owner's forces or another contractor to correct the problem associated with the suspension, rent of temporary facilities, and other actual costs related to the suspension. If the suspension was caused by acts or omissions of the Owner, the Contractor may be due compensation which shall be defined using Section D, Changes in Work. If the suspension was required through no fault of the Contractor or the Owner, neither party shall owe the other for the impact.

#### **J.4 OWNER'S RIGHT TO TERMINATE CONTRACT**

J.4.1 The Owner may, without prejudice to any other right or remedy, and after giving Contractor seven (7) Days' written notice and an opportunity to cure, terminate the Contract in whole or in part under the following conditions:

- (a) If Contractor should, voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in-possession or the Trustee for the estate fails to assume the Contract within a reasonable time;
- (b) If Contractor should make a general assignment for the benefit of Contractor's creditors;
- (c) If a receiver should be appointed on account of Contractor's insolvency;
- (d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;
- (e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner; or
- (f) If Contractor is otherwise in breach of any part of the Contract.
- (g) If Contractor is in violation of Applicable Laws, either in the conduct of its business or in its performance of the Work.

J.4.2 At any time that any of the above occurs, Owner may exercise all rights and remedies available to Owner at law or in equity, and, in addition, Owner may take possession of the premises and of all materials and appliances and finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive further payment until the Work is completed. If the Owner's cost of finishing the Work exceeds the unpaid balance of the Contract Price, Contractor shall pay the difference to the Owner.

#### **J.5 TERMINATION FOR CONVENIENCE**

J.5.1 Owner may terminate the Contract in whole or in part whenever Owner determines that termination of the Contract is in the best interest of Owner or the public.

J.5.2 The Owner shall provide the Contractor with seven (7) Days prior written notice of a termination for Owner's or for public convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination.

#### **J.6 ACTION UPON TERMINATION**

J.6.1 Upon receiving a notice of termination, and except as directed otherwise by the Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they relate to the Work terminated and, with the prior written approval of the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders.

J.6.2 As directed by the Owner, Contractor shall, upon termination, transfer title and deliver to the Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to the Owner.

I.6.3 Upon Owner's notice of termination pursuant to either Section J.4 or J.5, if Owner shall so elect, Contractor shall assign the Owner such subcontracts and orders as Owner shall specify. In the event Owner elects to take assignment of any such subcontract or order, Contractor shall take such action and shall execute such documents as Owner shall reasonably require for the effectiveness of such assignment and Contractor shall ensure that no contractual arrangement between it and its subcontractors or suppliers of any tier or sub-tier shall prevent such assignment.

## **SECTION K CONTRACT CLOSE OUT**

### **K.1 RECORD DOCUMENTS**

As a condition of final payment (refer also to section E.6), Contractor shall comply with the following: Contractor shall provide Record Documents for the entire project to Owner. Record Documents shall depict the project as constructed and shall reflect each and every change, modification, and deletion made during the construction. Record Documents are part of the Work and shall be provided prior to the Owner's issuance of final payment. Record Documents include all modifications to the Contract Documents unless otherwise directed, and accurate MWESB Reports.

### **K.2 OPERATION AND MAINTENANCE MANUALS**

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner prior to submission of any pay request for more than 75% of the Work. Owner's receipt of the O & M Manuals shall be a condition precedent to any payment thereafter due. The O & M Manuals shall contain a complete set of all submittals, all product data as required by the specifications, training information, telephone list and contact information for all consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner shall review and return one O & M Manual for any modifications or adjustments required. Prior to submission of its final pay request, Contractor shall deliver three (3) complete and approved sets of O & M Manuals to the Owner and Owner's receipt of the O & M Manuals shall be a condition precedent to Owner's obligation to make final payment.

### **K.3 COMPLETION NOTICES**

K.3.1 Contractor shall provide Owner written notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate. Both completion notices must be signed by the Contractor and the Owner to be valid. The Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by the Owner.

K.3.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the Owner. All equipment contained in the Work, plus all other components necessary to enable the Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. The Contractor may request that a Punch List be prepared by the Owner with submission of the request for the Substantial Completion notice.

### **K.4 TRAINING**

As part of the Work, and prior to submission of the final application for payment, the Contractor shall schedule with the Owner training sessions for all equipment and systems as required by the Contract Documents. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner to provide its personnel with adequate notice. The O & M Manual shall be used as a basis for training. Training shall be a formal session held after the equipment and/or system is completely installed and operational in its normal operating environment.

### **K.5 EXTRA MATERIALS**

As part of the Work, Contractor shall provide spare parts, extra maintenance materials, and other materials or products in the quantities specified in the Contract Documents prior to final payment. Delivery point for extra materials shall be designated by the Owner.

### **K.6 ENVIRONMENTAL CLEAN-UP**

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, the Contractor shall notify the Owner that all environmental and pollution clean-up, remediation and closure have been completed in accordance with all Applicable Laws and pursuant to the authority of all agencies having jurisdiction, and Contractor shall provide Owner with any and all documentation related to the same, including but not limited to directives, orders, letters, certificates and permits related to or arising from such environmental pollution. The notice shall reaffirm the indemnification given under Section F.5.1 above. Contractor's completion of its obligations under this Section K.6 and Owner's receipt of documents evidencing such completion shall be a condition precedent to Owner's obligation to make final payment.

### **K.7 CERTIFICATE OF OCCUPANCY**

Owner's receipt of an unconditioned certificate of occupancy from the appropriate state and/or local building officials shall be a condition precedent to Owner's obligation to make final payment, except to the extent failure to obtain an unconditional certificate of occupancy is due to the fault or neglect of Owner.

### **K.8 OTHER CONTRACTOR RESPONSIBILITIES**

The Contractor shall be responsible for returning to the Owner all property of Owner issued to Contractor during construction such as keys, security passes, site admittance badges, and all other pertinent items. Upon notice from Owner, Contractor shall be responsible for notifying the appropriate utility companies to transfer utility charges from the Contractor to the Owner. The utility transfer date shall not be before Substantial Completion and may not be until Final Completion, if the Owner does not take beneficial use of the facility and the Contractor's forces continue with the Work.

### **K.9 SURVIVAL**

All warranty and indemnification provisions of this Contract, and all of Contractor's other obligations under this Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract.

**OREGON UNIVERSITY SYSTEM**  
**STANDARD PUBLIC IMPROVEMENT CONTRACT**  
**PERFORMANCE BOND**

Bond No. \_\_\_\_\_  
Solicitation \_\_\_\_\_  
Project Name \_\_\_\_\_

_____ (Surety #1)	Bond Amount No. 1:	\$ _____
_____ (Surety #2)*	Bond Amount No. 2:*	\$ _____
<i>* If using multiple sureties</i>	Total Penal Sum of Bond:	\$ _____

We, \_\_\_\_\_ as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto the State of Oregon, acting by and through the State Board of Higher Education, on behalf of the OUS (OUS), the sum of (Total Penal Sum of Bond)

\_\_\_\_\_  
(Provided, that we the Sureties bind ourselves in such sum “jointly and severally” as well as “severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety), and

WHEREAS, the Principal has entered into a contract with the OUS, the plans, specifications, terms and conditions of which are contained in the above-referenced Solicitation;

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Performance Bond by reference, whether or not attached to the contract (all hereafter called “Contract”); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and all authorized modifications of the Contract which increase the amount of the work, the amount of the Contract, or constitute an authorized extension of the time for performance, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein,



and within the time prescribed therein, or as extended as provided in the Contract, with or without notice to the Sureties, and shall indemnify and save harmless the OUS, and \_\_\_\_\_ (name of institution and any other Owner agency), and members thereof, its officers, employees and agents, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Principal or its subcontractors, and shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond, nor shall the State of Oregon or the OUS, be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 351, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**PRINCIPAL:** \_\_\_\_\_

By \_\_\_\_\_  
Signature

\_\_\_\_\_  
Official Capacity

Attest: \_\_\_\_\_  
Corporation Secretary

**SURETY:** \_\_\_\_\_

*[Add signatures for each surety if using multiple bonds]*

**BY ATTORNEY-IN-FACT:**

*[Power-of-Attorney must accompany each surety bond]*

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Phone Fax

**OREGON UNIVERSITY SYSTEM**

**STANDARD PUBLIC IMPROVEMENT CONTRACT**

**PAYMENT BOND**

Bond No. \_\_\_\_\_  
Solicitation \_\_\_\_\_  
Project Name \_\_\_\_\_

\_\_\_\_\_ (Surety #1)                      Bond Amount No. 1:                      \$ \_\_\_\_\_  
\_\_\_\_\_ (Surety #2)\*                      Bond Amount No. 2:\*                      \$ \_\_\_\_\_  
*\* If using multiple sureties*                      Total Penal Sum of Bond:                      \$ \_\_\_\_\_

We, \_\_\_\_\_, as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto the State of Oregon, acting by and through the State Board of Higher education, on behalf of the Oregon University System (OUS), the sum of (Total Penal Sum of Bond) \_\_\_\_\_ (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety), and

WHEREAS, the Principal has entered into a contract with the OUS, the plans, specifications, terms and conditions of which are contained in above-referenced Solicitation;

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Payment Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and schedule of contract prices which are set forth in the Contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, and shall indemnify and save harmless the OUS and \_\_\_\_\_ (name of institution and any other Owner agency), and members thereof, its officers, employees and agents, against any claim for direct or indirect damages of every kind and description that shall be suffered or

claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractors in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and shall permit no lien nor claim to be filed or prosecuted against the State on account of any labor or materials furnished; and shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond, nor shall the State of Oregon, or the OUS be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 351, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**PRINCIPAL:** \_\_\_\_\_

By \_\_\_\_\_  
Signature

\_\_\_\_\_  
Official Capacity

Attest: \_\_\_\_\_  
Corporation Secretary

**SURETY:** \_\_\_\_\_

*[Add signatures for each if using multiple bonds]*

**BY ATTORNEY-IN-FACT:**

*[Power-of-Attorney must accompany each bond]*

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Phone Fax

**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Contract Description
- B. Conditions of the Contract
- C. Contract Type
- D. Work Sequence
- E. Owner Occupancy
- F. Contractors Use of Premises
- G. Specification Conventions

**1.2 RELATED WORK**

- A. See Section 01200 for Alternates.

**1.3 CONTRACT DESCRIPTION**

- A. Construction of a new batting cage and remodel of a concession stand.

**1.4 CONDITIONS OF THE CONTRACT**

- A. The Conditions of the Contract and the General Requirements (Division 1) of these Specifications apply to the work described under each Section hereof. The Contractor shall instruct each subcontractor to incorporate those provisions in their bids.

**1.5 CONTRACT TYPE**

- A. Construct the Work under a single lump sum contract.

**1.6 WORK SEQUENCE**

- A. Sequence and schedule Work to permit Owner's use of the Project at the earliest possible date.
- B. The General Contractor shall take measures necessary to perform their work during inclement weather.

**1.7 OWNER OCCUPANCY**

- A. Expedite completion of the Work for the Owner's use.
- B. Perform work in a manner that allows Owner occupancy during construction.

**1.8 CONTRACTOR USE OF PREMISES**

- A. Contractor shall limit use of premises to allow:
  - 1. Owner occupancy
  - 2. Work by other contractors
  - 3. Work by Owner
- B. Coordinate use of premises under direction of the General Contractor.
- C. Assume full responsibility for protection and safekeeping of products under this contract.

**1.9 OWNER-FURNISHED PRODUCTS INSTALLED BY OWNER (OFOI)**

- A. The following shall be furnished and installed by the Owner. Contractor shall provide utility connections, rough-ins, backing and fasteners as noted or shown in drawings and specifications.
1. Soap Dispensers
  2. Paper Towel Dispensers
  3. Toilet Paper Dispensers
  4. IT Wiring

**1.10 OWNER-FURNISHED PRODUCTS INSTALLED BY CONTRACTOR (OFCI)**

- A. Owner Responsibilities:
1. Arrange for and deliver Owner-reviewed shop drawings, product data, manufacturer's instructions and samples to Contractor.
  2. Review shop drawings, product data, samples and other submittals. Submit to Architect with notification and any observed discrepancies or problems anticipated due to non-conformance with Contract Documents.
  3. Receive, pay for and unload products at site.
  4. Inspect deliveries jointly with Contractor, record shortages and damage or defective items.
  5. Handle products at site, including un-crating and storage.
  6. Protect products from damage and from exposure to elements.
  7. Provide Contractor with information on blockouts, sleeves, backing and/or other necessary elements for installation.
  8. Assemble, install, connect to utilities, adjust and finish products.
  9. Arrange installation inspections required by public authorities, warranties and service.
  10. Repair or replace items damaged by Contractor.
- B. Contractor Responsibilities:
1. Review Owner-reviewed shop drawings, product data and samples.
  2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
  3. Handle, store, install and finish products.
  4. Repair or replace items damaged after receipt.
- C. Schedule:
1. All existing equipment to be relocated (confirm with Owner).

END OF SECTION

**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Cash Allowances.
- B. Schedule of values.
- C. Applications for payment.
- D. Change procedures.
- E. Defect assessment.
- F. Alternates.

**1.2 CASH ALLOWANCES**

- A. Costs Included in Cash Allowances: All costs of product, installation, overhead, profit and supervision.

**1.3 SCHEDULE OF VALUES**

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization, bonds and insurance and supervision.
- D. Include separately from within each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.

**1.4 APPLICATIONS FOR PAYMENT**

- A. Submit one copy of each application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit Payment Application each month during construction of the Project. Submit with transmittal letter as specified for Submittals in Section 01330.
- E. Payment: If a Payment Application is submitted by the twenty-fifth day of the month for which payment is requested and the Application correctly states the amount of payment due for work actually performed and materials acquired for the time period, the Owner will release payment on or before the tenth day of the following month, or on the first day after the tenth day of the following month if the tenth day is a Saturday or a Sunday, or on the fifteenth day of the following month if the tenth day is a Legal Holiday.
- F. Substantiating Data: With each Payment Application submit:
  - 1. Copies of invoices from each entity performing work or providing materials for the time period.
  - 2. Description of materials stored off-site. Proof of insurance covering one-hundred percent replacement cost of off-site stored materials.
- G. Payment for products stored off the project site: When delay or added cost to Owner can be avoided by storing Products off Site Owner will make payment to Contractor for such Products provided Contractor shall:

1. Locate Storage Facilities within 20 mile of Project Site or within 50 miles of Architect's Office.
2. Make Storage Facilities available for Architect's observation.
3. Segregate and label Stored Products for specified Project.
4. Assume all risk for loss.
5. Assume responsibility for exceeding Product "shelf life."
6. Protect Stored Products and provide applicable Insurance against their damage, discoloration, and theft, listing the Owner and any Mortgagee as Additional Named Insureds.
7. Submit itemized Inventory and Schedule of Values for Stored Products together with Certificate of Insurance.

### **1.5 CHANGE PROCEDURES**

- A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Architect will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on AIA Form G710.
- C. Request for Information (RFI): Requests for information, clarifications, interpretations and changes which may or may not change the contract sum shall be made on a form acceptable to the Owner, Architect and Contractor.
- D. The Architect may issue a Request for Information (RFI) including a detailed description of proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within three days.
- E. Contractor may propose changes by submitting a Request for Information (RFI) to Architect, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors. Document requested substitutions in accordance with Section 01600.
- F. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Architect.
- G. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Change Order.
- H. Construction Change Directive: Architect may issue directive, on AIA Form G713 Construction Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- I. Change Order Forms: AIA G701 Change Order.
- J. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- K. Correlation Of Contractor Submittals:

1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

#### **1.6 DEFECT ASSESSMENT**

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect, it is not practical to remove and replace the Work, the Architect will direct appropriate remedy or adjust payment.
- C. Individual specification sections may modify these options or may identify specific formula or percentage sum/price reduction
- D. Authority of Architect to assess defects and identify payment adjustments, is final.
- E. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
  1. Products wasted or disposed of in a manner that is not acceptable.
  2. Products determined as unacceptable before or after placement.
  3. Products not completely unloaded from transporting vehicle.
  4. Products placed beyond lines and levels of required Work.
  5. Products remaining on hand after completion of the Work.
  6. Loading, hauling, and disposing of rejected products.

#### **1.7 ALTERNATES**

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work.
- C. Schedule of Alternates:
- D.
  1. ALTERNATE #1 (Deductive): Reduce Size of Batting Cage
  2. ALTERNATE #2 (Additive): Wood Framing @ Batting Cage - (3) batting stations
  3. ALTERNATE #3 (Additive): Wood Framing @ Batting Cage - (2) batting stations
  4. ALTERNATE #4 (Additive): Provide and Install Batting Cage Safety Nets - (3) batting stations
  5. ALTERNATE #5 (Additive): Provide and Install Batting Cage Safety Nets - (2) batting stations
  5. ALTERNATE #6 (Additive): Provide Custom Lockers In Lieu of Reusing Existing

#### **PART 2 PRODUCTS**

NOT USED

#### **PART 3 EXECUTION**

NOT USED

END OF SECTION



## **PART 1 GENERAL**

### **1.1 SECTION INCLUDES**

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Site mobilization meeting.
- E. Progress meetings.
- F. Pre-installation meetings.
- G. Cutting and patching.
- H. Special procedures.

### **1.2 COORDINATION AND PROJECT CONDITIONS**

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's occupancy.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

### **1.3 FIELD ENGINEERING**

- A. Layout control points will be located by SOU staff prior to start of work.
- B. Verify set-backs and easements; confirm drawing dimensions and elevations.
- C. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- D. Maintain complete and accurate log of control and survey work as Work progresses.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Architect loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

### **1.5 SITE MOBILIZATION MEETING and PRECONSTRUCTION MEETING**

- A. Contractor shall schedule meeting at Project site prior to Contractor occupancy.
- B. Attendance Required: Owner, Architect, Special Consultants, Contractor, Contractor's Superintendent, and major Subcontractors.

- C. Agenda:
  - 1. Use of premises by Owner and Contractor.
  - 2. Owner's requirements and occupancy.
  - 3. Construction facilities and controls provided by Owner.
  - 4. Temporary utilities provided by Owner.
  - 5. Survey and building layout.
  - 6. Security and housekeeping procedures.
  - 7. Schedules.
  - 8. Application for payment procedures.
  - 9. Procedures for testing.
  - 10. Procedures for maintaining record documents.
  - 11. Requirements for start-up of equipment.
  - 12. Inspection and acceptance of equipment put into service during construction period.
  - 13. Execution of Owner-Contractor Agreement.
  - 14. Submission of executed bonds and insurance certificates.
  - 15. Distribution of Contract Documents.
  - 16. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
  - 17. Designation of personnel representing parties in Contract, and Architect.
  - 18. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 19. Submission of monthly estimated construction costs cash flow over duration of project.
  - 20. Scheduling and work sequencing.
  - 21. Scheduling activities of Geotechnical Engineer.
  - 22. Miscellaneous administrative issues.
- D. Contractor will provide a conference report two days after meeting to participants, with copies to Architect, Owner and major Subcontractors. Owner and Architect will copy others as they require.

**1.6 PROGRESS MEETINGS**

- A. Contractor shall schedule and administer weekly meetings throughout progress of the Work at weekly intervals, dates and location as confirmed by Contractor, Architect and Owner.
- B. Architect will prepare agenda and preside at progress meetings.
- C. Attendance Required: Job superintendent, major subcontractors and suppliers when impacted by the current or impending work, Owner, Architect, and Consulting Engineers as appropriate to agenda topics for each meeting.
- D. General Agenda:
  - 1. Review minutes of previous meetings.
  - 2. Review of past week's work progress.
  - 3. Review Construction Schedule. Identify items adversely affecting schedule and corrective measures needed to maintain Schedule.
  - 4. Review proposed work for week following meeting
  - 5. Review field observations, problems, and decisions.
  - 6. Review of submittals schedule and status of submittals.
  - 7. Review of off-site fabrication and delivery schedules.
  - 8. Changes: Change orders, R.F.I.'s

- E. Contractor will provide a conference report and distribute copies within two days after meeting to participants, Architect and Owner. Owner and Architect will distribute copies to others as they require.

### **1.7 PRE-INSTALLATION MEETINGS**

- A. When required in individual specification sections, Contractor shall convene pre-installation meetings at Project site prior to commencing work of specific section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
  - 1. Review conditions of installation, preparation and installation procedures.
  - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, and those affected by decisions made.

## **PART 2 PRODUCTS**

NOT USED

## **PART 3 EXECUTION**

### **3.1 CUTTING AND PATCHING**

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
  - 1. Structural integrity of element.
  - 2. Integrity of weather-exposed or moisture-resistant elements.
  - 3. Efficiency, maintenance, or safety of element.
  - 4. Visual qualities of sight exposed elements.
  - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
  - 1. Fit the several parts together, to integrate with other Work.
  - 2. Uncover Work to install or correct ill-timed Work.
  - 3. Remove and replace defective and non-conforming Work.
  - 4. Remove samples of installed Work for testing.
  - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute Work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07840, to full thickness of penetrated element.
- J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

- K. Identify hazardous substances or conditions exposed during the Work to Architect for decision or remedy.

**3.2 SPECIAL PROCEDURES**

- A. Materials: As specified in product sections; match existing with new products and salvaged products for patching and extending work.
- B. Employ original, skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.
- I. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with neat transition to adjacent finishes.
- J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect for review.
- L. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition; to Architect for review.
- M. Trim existing doors to clear new floor finish. Refinish trim to original condition.
- N. Provide all new fasteners and required installation accessories required to install salvaged items.
- O. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- P. Finish surfaces as specified in individual product sections.

END OF SECTION

**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Submittal procedures.
- B. Proposed products list.
- C. Product data.
- D. Shop drawings.
- E. Samples.
- F. Test reports.
- G. Certificates.
- H. Manufacturer's instructions.
- I. Erection drawings.

**1.2 SUBMITTAL PROCEDURES**

- A. Transmit each submittal with transmittal form.
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. On transmittal form Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents, prior to submission to Architect for approval.
- E. Schedule submittals to expedite Project, and deliver to Architect at business address. Coordinate submission of related items.
- F. For each submittal for review, allow seven days excluding delivery time to and from Contractor.
- G. If deviations from the Contract Documents are shown on the submittal, accompany the submittal with a letter on the Contractor's letterhead identifying the specifics of the deviation(s). Explain why acceptance of the deviations by the Architect are of benefit to the Owner's interests.
- H. Allow space on submittals for Contractor and Architect review stamps.
- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate to completion of the Work. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.
- L. Submittals shall be in PDF format.

**1.3 PROPOSED PRODUCTS LIST**

- A. Within 20 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

**1.4 PRODUCT DATA**

- A. Product Data: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

- B. Submit number of copies Contractor requires, plus two copies Architect will retain. Submit in PDF format.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700.

### **1.5 SHOP DRAWINGS**

- A. Shop Drawings: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Submit number of copies as Contractor requires, plus a copy Architect will retain in PDF format.
- D. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700.

### **1.6 SAMPLES**

- A. Samples: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples For Selection as Specified in Product Sections:
  - 1. Submit to Architect for aesthetic, color, or finish selection.
  - 2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect selection. Submit samples in custom colors, textures and patterns when requested.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit number of samples specified in individual specification sections; Architect will retain two samples.
- F. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01700.

### **1.7 TEST REPORTS**

- A. Submit for Architect's knowledge as contract administrator or for Owner.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

### **1.8 CERTIFICATES**

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

#### **1.9 MANUFACTURER'S INSTRUCTIONS**

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Architect for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

#### **1.10 ERECTION DRAWINGS**

- A. Submit drawings for Architect's benefit as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

#### **PART 2 PRODUCTS**

NOT USED

#### **PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SECTION INCLUDES**

- A. Quality control and control of installation.
- B. Tolerances.
- C. References.
- D. Mock-up requirements.
- E. Testing and inspection services.
- F. Examination.
- G. Preparation.

### **1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION**

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

### **1.3 TOLERANCES**

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

### **1.4 REFERENCES**

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in reference documents.

### **1.5 MOCK-UP REQUIREMENTS**

- A. Tests will be performed under provisions identified in this section and identified in respective product specification sections.



- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be comparison standard for remaining Work.
- D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by Architect.

**1.6 TESTING AND INSPECTION SERVICES**

- A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection, to include tests and inspections described in Specification sections and Special Inspections and Testing required by building department.
- B. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Architect or Owner.
- C. Reports will be submitted by independent firm to Architect, Owner and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
  - 1. Notify Architect and independent firm 24 hours prior to expected time for operations requiring services.
  - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Architect. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum.
- H. Agency Responsibilities:
  - 1. Test samples of mixes submitted by Contractor.
  - 2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
  - 6. Perform additional tests required by Architect/Engineer.
  - 7. Attend preconstruction meetings and progress meetings if required
- I. Agency Reports: After each test, promptly submit two copies of report to Architect and to Contractor. When requested by Architect, provide interpretation of test results. Include the following:
  - 1. Date issued.
  - 2. Project title and number.
  - 3. Name of inspector.
  - 4. Date and time of sampling or inspection.
  - 5. Identification of product and specifications section.
  - 6. Location in Project.
  - 7. Type of inspection or test.

8. Date of test.
  9. Results of tests.
  10. Conformance with Contract Documents.
- J. Limits On Testing Authority:
1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  2. Agency or laboratory may not approve or accept any portion of the Work.
  3. Agency or laboratory may not assume duties of Contractor.
  4. Agency or laboratory has no authority to stop the Work.

## **PART 2 PRODUCTS**

NOT USED

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

### **3.2 PREPARATION**

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Temporary Utilities:
  - 1. Temporary electricity.
  - 2. Temporary lighting for construction purposes.
  - 3. Temporary heating.
  - 4. Temporary ventilation.
  - 5. Telephone service.
  - 6. Facsimile service.
  - 7. Temporary water service.
  - 8. Temporary sanitary facilities.
- B. Construction Facilities:
  - 1. Field offices and sheds.
  - 2. Vehicular access.
  - 3. Parking.
  - 4. Progress cleaning and waste removal.
- C. Temporary Controls:
  - 1. Barriers.
  - 2. Security.
  - 3. Water control.
  - 4. Dust control.
  - 5. Erosion and sediment control.
  - 6. Noise control.
  - 7. Smoking area.
- D. Removal of utilities, facilities, and controls.

**1.2 TEMPORARY ELECTRICITY**

- A. Contractor will use existing on site power.

**1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES**

- A. Provide and maintain lighting of sufficient luminescence for construction operations.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.
- C. Provide breakage-protective devices around lighting fixtures.
- D. Permanent building lighting may be utilized during construction. Contractor shall replace luminaires at Substantial Completion.

**1.4 TEMPORARY HEATING**

- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.
- B. Prior to operation of permanent equipment for temporary heating purposes, obtain Architects approval, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts. If permanent equipment is used during construction, prior to Final Acceptance replace all filters and restore systems components to "like new" condition.
- C. Maintain minimum ambient temperature of 50 degrees F minimum in areas where construction is in progress, unless indicated otherwise in product sections.

**1.5 TEMPORARY VENTILATION**

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Provide temporary fan units as required to maintain clean air for construction operations.

**1.6 TELEPHONE SERVICE**

- A. Provide, 24 hour cell phone contact numbers for key personnel.

**1.8 TEMPORARY WATER SERVICE**

- A. Contractor may use existing water service and shall take measures to conserve use.

**1.9 TEMPORARY SANITARY FACILITIES**

- A. Provide at the time of mobilization and maintain sanitary facilities and privacy enclosures until the date of Substantial Completion. Provide facilities approved for use at construction sites by OSHA and the Jackson County Health Department.

**1.10 FIELD OFFICES AND SHEDS**

- A. Not Required. Contractor has option to provide site trailer if desired.

**1.11 VEHICULAR ACCESS**

- A. Use existing driveway for site access. restore to pre-construction condition upon completion of project.
- B. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning space between and around combustible materials.
- C. Provide and maintain access to fire hydrants and control valves free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Use designated existing on-site roads for construction traffic.
- F. Clean daily paved surfaces of Public Rights-of-way soiled by operations of the Work.

**1.12 PARKING**

- A. Do not allow heavy vehicles or construction equipment in parking areas.
- B. Maintenance:
  - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
  - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- C. Removal, Repair:
  - 1. Remove temporary materials and construction when permanent paving is usable, before Substantial Completion.
  - 2. Remove underground work and compacted materials to depth of 2 feet; fill and grade site as specified.
  - 3. Repair permanent facilities damaged by use, to specified condition.

**1.13 PROGRESS CLEANING AND WASTE REMOVAL**

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

**1.14 BARRIERS**

- A. Provide barriers to prevent unauthorized entry to construction areas and adjacent properties. Provide barriers to protect from damage to construction, materials and adjacent properties.
- B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- E. Provide a 6'-0" chain link temporary fence around the entire perimeter of the batting cage construction site.

**1.18 SECURITY**

- A. Security Program: Protect Work and Owner's operations from theft, vandalism, and unauthorized entry. Maintain program throughout construction period until Owner occupancy.

**1.19 WATER CONTROL**

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment to remove water that collects on site.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

**1.20 DUST CONTROL**

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

**1.21 EROSION AND SEDIMENT CONTROL**

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize surface area of bare soil exposed at one time.
- C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

**1.22 NOISE CONTROL**

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

**1.23 SMOKING AREA**

- A. Smoking is not allowed on the SOU campus.

**1.24 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to minimum depth of 2 feet . Grade site as indicated on Drawings.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing and permanent facilities used during construction to original condition.  
Restore permanent facilities used during construction to "like-new" condition.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SECTION INCLUDES**

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

### **1.2 PRODUCTS**

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

### **1.3 PRODUCT DELIVERY REQUIREMENTS**

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

### **1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS**

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

### **1.5 PRODUCT OPTIONS**

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and meeting specifications.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

**1.6 PRODUCT SUBSTITUTION PROCEDURES**

- A. Proposals for product substitutions must be submitted in writing on the form provided by the deadline listed in Section 00200 - Supplementary Instructions to Bidders.
- B. Beyond the period for acceptance, proposals for product substitution may be considered if a specified product becomes unavailable through no fault of Contractor, or if a proposed product provides significant advantages for the Project or significant cost saving for the Owner.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents; or show how proposed substitution either enhances the Work or is a cost savings to the Owner without compromise to the Work.
- D. A substitution request constitutes a representation that the submitter:
  - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
  - 2. Will provide same warranty for Substitution as for specified product.
  - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
  - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
  - 5. Will reimburse Owner and Architect for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.
- F. Approved substitutions will be listed in Addenda.
- G. Substitution Request Form: Proposals for substitution must use the form on following page.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION**

NOT USED

END OF SECTION

**SUBSTITUTION REQUEST FORM FOLLOWS**



**SUBSTITUTION REQUEST FORM**

TO: Kistler, Small, + White, Architects  
552 A Street  
Ashland, OR 97520

PROJECT: **SOUTHERN OREGON UNIVERSITY - New Batting cage and Concession Stand Remodel  
Ashland, Oregon**

We hereby submit for your consideration the following product instead of the specified item for the above project:

<u>Section</u>	<u>Paragraph</u>	<u>Specified Item</u>
_____	_____	_____

Proposed Substitution: \_\_\_\_\_

Attach complete technical data, including laboratory tests, if applicable.  
Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Fill in blanks below:

- A. Does the substitution affect dimensions shown on Drawings?
- B. The Undersigned agrees to pay for changes to the building design, including engineering and detailing costs caused by the requested substitution.
- C. What affect does substitution have on other trades?
- D. Differences between proposed substitution and specified item?  
\_\_\_\_\_
- E. Manufacturer's guarantees of the proposed and specified items are:  
 Same                     Different (explain on attachment)

The Undersigned states that the function, appearance, quality and building codes compliance are equivalent or superior to the specified item.

Submitted by: \_\_\_\_\_

Signature

Firm \_\_\_\_\_

Date \_\_\_\_\_

Telephone (    ) \_\_\_\_\_

For Use by Design Consultant:

Accepted                     Accepted as Noted

Not Accepted                 Received too Late

By \_\_\_\_\_

Remarks \_\_\_\_\_

## **PART 1 GENERAL**

### **1.1 SECTION INCLUDES**

- A. Closeout procedures.
- B. Final cleaning.
- C. Starting of systems.
- D. Demonstration and instructions.
- E. Protecting installed construction.
- F. Project record documents.
- G. Operation and maintenance data.
- H. Manual for materials and finishes.
- I. Manual for equipment and systems.
- J. Spare parts and maintenance products.
- K. Product warranties and product bonds.

### **1.2 CLOSEOUT PROCEDURES**

- A. When the Work is complete submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect review.
- B. Provide to Architect submittals required by the Project Manual and by authorities having jurisdiction of the Work.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Owner will occupy portions of building as specified in Section 01100.
- E. Completion of all requirements of this Section is a prerequisite to the Owner's issuing final payment.

### **1.3 FINAL CLEANING**

- A. Execute final cleaning prior to final project assessment.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.
- D. Replace filters of equipment operated during construction.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste and surplus materials, rubbish, and construction facilities from site.

### **1.4 STARTING OF SYSTEMS**

- A. Two weeks prior to start-up of any mechanical equipment and systems, create a list of all such items scheduled for start-up and present to Owner and Architect. Show anticipated date of start-up for each item.
- B. Notify Architect and Owner seven days prior to start-up of each item of equipment and system.

- C. Verify that each piece of equipment or system has been inspected for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative and Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Section 01330 that equipment or system has been properly installed and is functioning correctly.

**1.5 DEMONSTRATION AND INSTRUCTIONS**

- A. Schedule with the Owner periods of demonstration and instruction convenient to Owner's staff and Contractor and subcontractors. At each period of instruction and demonstration obtain names, titles and signatures of attendees.
- B. Demonstrate operation of equipment and controls and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance, and seasonal adjustments required.
- D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment location.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

**1.6 PROTECTING INSTALLED CONSTRUCTION**

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

**1.7 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.

4. Change Orders and other modifications to the Contract.
  5. Reviewed Shop Drawings, Product Data, and Samples.
  6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure that entries showing revisions to the original Documents are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
  2. Product substitutions or alternates utilized.
  3. Changes made by Addenda and modifications.
- F. Record Drawings: Legibly mark each item to record actual construction including:
1. Measured depths of foundations in relation to finish main floor datum.
  2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  4. Field changes of dimension and detail.
  5. Details not on original Contract drawings.
- G. Submit documents to Architect with claim for final Application for Payment. Provide one paper copy and one PDF copy for all record drawings.

#### **1.8 OPERATION AND MAINTENANCE DATA**

- A. Submit data bound in 8-1/2 x 11 inch side ring binders with durable plastic covers. Submit two copies of each binder and an electronic (PDF) file including all information.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of Project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
  2. 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:
    - a. Significant design criteria.
    - b. List of equipment.
    - c. Parts list for each component.
    - d. Operating instructions.
    - e. Maintenance instructions for equipment and systems.
    - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.

3. Part 3: Project documents and certificates, including the following:
  - a. Shop drawings and product data.
  - b. Air and water balance reports.
  - c. Certificates.
  - d. Photocopies of warranties and bonds.

#### **1.9 MANUAL FOR MATERIALS AND FINISHES**

- A. Submit two copies and a PDF file of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy to be reviewed and returned after final inspection, with Architect comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form plus PDF file within 10 days after final inspection.
- E. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom manufactured products.
- F. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- G. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.
- H. Additional Requirements: As specified in individual product specification sections.
- I. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

#### **1.10 MANUAL FOR EQUIPMENT AND SYSTEMS**

- A. Submit two copies and PDF file of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy to be reviewed and returned [after final inspection], with Architect comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes in final form plus PDF format within 10 days after final inspection.
- E. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- F. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- G. Include color coded wiring diagrams as installed.
- H. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and special operating instructions.
- I. Maintenance Requirements: Include routine procedures and guide for preventative

maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

- J. Include servicing and lubrication schedule, and list of lubricants required.
- K. Include manufacturer's printed operation and maintenance instructions.
- L. Include sequence of operation by controls manufacturer.
- M. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- N. Include control diagrams by controls manufacturer as installed.
- O. Include Contractor's coordination drawings, with color coded piping diagrams as installed.
- P. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- Q. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- R. Include test and balancing reports as specified in Section 01400.
- S. Additional Requirements: As specified in individual product specification sections.
- T. Include listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

#### **1.11 SPARE PARTS AND MAINTENANCE PRODUCTS**

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to and place in location as directed by Owner; obtain receipt of materials by Owner prior to final payment.

#### **1.12 PRODUCT WARRANTIES AND PRODUCT BONDS**

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.
- F. Submit prior to final Application for Payment.
- G. Time Of Submittals:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
  - 2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after substantial completion, listing date of acceptance as beginning of warranty or bond period.

#### **PART 2 PRODUCTS**

NOT USED

#### **PART 3 EXECUTION**

NOT USED

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Demolishing designated building equipment and fixtures.
  - 2. Demolishing designated construction.
  - 3. Cutting and alterations for completion of the Work.
  - 4. Removing designated items for reuse and Owner's retention.
  - 5. Protecting items designated to remain.
  - 6. Removing demolished materials.
- B. Related Sections:
  - 1. Section 01100 - Summary

**1.2 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Demolition Schedule: Indicate overall schedule and interruptions required for utility and building services.

**1.3 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Requirements for submittals.
- B. Project Record Documents: Accurately record actual locations of capped utilities, concealed utilities discovered during demolition, and subsurface obstructions.
- C. Operation and Maintenance Data: Submit description of system, inspection data, and parts lists.

**1.4 QUALITY ASSURANCE**

- A. Conform to applicable code for demolition work, dust control, products requiring electrical disconnection and re-connection.
- B. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.
- C. Obtain required permits from authorities having jurisdiction.
- D. Perform Work in accordance with State of Oregon Public Work's standard.

**1.5 PRE-INSTALLATION MEETINGS**

- A. Section 01300 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

**1.6 SEQUENCING**

- A. Section 01100 - Summary: Requirements for sequencing.
- B. Owner will conduct salvage operations before demolition begins to remove materials Owner chooses to retain.

**1.7 SCHEDULING**

- A. Schedule Work to coincide with new construction.
- B. Cooperate with Owner in scheduling noisy operations and waste removal that may impact Owners operation and work in adjoining spaces.
- C. Perform noisy, malodorous, and dusty work:
  - 1. Coordinate scheduling with Owner.
- D. Coordinate utility and building service interruptions with Owner.
  - 1. Do not disable or disrupt building fire or life safety systems without three days prior written notice to Owner.
  - 2. Schedule tie-ins to existing systems to minimize disruption.
  - 3. Coordinate Work to ensure fire sprinklers, fire alarms, smoke detectors, emergency lighting, exit signs and other life safety systems remain in full operation in occupied areas.

**1.8 PROJECT CONDITIONS**

- A. Conduct demolition to minimize interference with adjacent and occupied building areas.
- B. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

**PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION****3.1 PREPARATION**

- A. Notify affected utility companies before starting work and comply with their requirements.
- B. Mark location and termination of utilities.
- C. Erect, and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the public, Owner and existing improvements indicated to remain.
- D. Erect and maintain weatherproof closures for exterior openings.
- E. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.



- F. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.
- G. Provide appropriate temporary signage including signage for exit or building egress.
- H. Do not close or obstruct building egress path.
- I. Do not disable or disrupt building fire or life safety systems without (3) three days prior written notice to Owner.

### **3.2 SALVAGE REQUIREMENTS**

- A. Coordinate with Owner to identify building components and equipment required to be removed and delivered to Owner.
- B. Tag components and equipment Owner designates for salvage.
- C. Protect designated salvage items from demolition operations until items can be removed.
- D. Carefully remove building components and equipment indicated to be salvaged.
- E. Disassemble as required to permit removal from building.
- F. Package small and loose parts to avoid loss.
- G. Mark equipment and packaged parts to permit identification and consolidation of components of each salvaged item.
- H. Prepare assembly instructions consistent with disassembled parts. Package assembly instructions in protective envelope and securely attach to each disassembled salvaged item.
- I. Deliver salvaged items to Owner. Obtain signed receipt from Owner.

### **3.3 DEMOLITION**

- A. Conduct demolition to minimize interference with adjacent and occupied building areas.
- B. Maintain protected egress from and access to adjacent existing buildings at all times.
- C. Do not close or obstruct roadways and sidewalks.
- D. Cease operations immediately when structure appears to be in danger and notify Architect/Engineer.
- E. Disconnect and remove designated utilities within demolition areas.
- F. Cap and identify abandoned utilities at termination points when utility is not completely removed. Annotate Record Drawings indicating location and type of service for capped utilities remaining after demolition.
- G. Demolish in orderly and careful manner. Protect existing improvements, supporting structural members and all components necessary for the continued operation of the facilities.
- H. Carefully remove building components indicated to be reused.
  - 1. Disassemble components as required to permit removal.
  - 2. Package small and loose parts to avoid loss.
  - 3. Mark components and packaged parts to permit reinstallation.
  - 4. Store components, protected from construction operations, until reinstalled.

- I. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- J. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.
- K. Remove temporary Work.

### **3.4 SCHEDULES**

- A. Remove, store and protect the following materials and equipment:
  - 1. As indicated in the Drawings and Specifications.
- B. Remove the following equipment [and materials] for Owner's retention.
  - 1. As indicated in the Drawings and Specifications.
- C. Protect the following materials and equipment remaining:
  - 1. As indicated in the Demolition drawings for Architectural, Mechanical, Plumbing, and Electrical drawings.
- D. Demolish the following materials and equipment:
  - 1. As indicated in the Demolition drawings for Architectural, Mechanical, Plumbing, and Electrical drawings.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Removing surface debris.
  - 2. Removing designated paving, curbs and walks.
  - 3. Removing designated trees, shrubs and other plant life.
  - 4. Removing abandoned utilities.
- B. Related Sections:
  - Section 02311 - Rough Grading: Topsoil stockpiling, utilities locate.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION****3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify existing plant life designated to remain is tagged or identified.
- C. Identify waste area, salvage area for placing removed materials.
- D. Obtain utilities locate before starting work.

**3.2 PROTECTION**

- A. Locate, identify, and protect utilities indicated to remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.
- C. Protect bench marks, and existing structures from damage or displacement.

**3.3 CLEARING**

- A. Clear areas required for access to site and execution of Work.
- B. Strip area to a depth required to remove sod and deleterious materials, minimum of 4 inches.
- C. Grub out stumps and roots over 2 inches in diameter, surface rock and debris from top 6 inches of subsoil.
- D. Remove roots 1 inch in diameter and larger to a depth of 12" below or subgrade of new graded surface, whichever is lower.

**3.4 REMOVAL**

- A. Remove debris, rocks, and extracted plant life from site.
- B. Partially remove paving, curbs, and walks as indicated on Drawings. Neatly saw cut edges at right angles to surface.
- C. Remove abandoned utilities. Indicated removal termination point for underground utilities on Record Documents.
- D. Continuously clean-up and remove waste materials from site. Do not allow materials to accumulate on site. Maintain the designated site access for vehicle and pedestrian traffic.
- F. Do not burn or bury materials on site. Leave site in clean condition.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Excavate Subsoil and Remove Excess from Site.
  - 2. Grade and Rough Contour Site.
- B. Related Sections:
  - 1. Section 02230 - Site Clearing.
  - 2. Section 02315 - Excavation.
  - 3. Section 02320 - Backfill.

### **1.2 SUBMITTALS**

- A. Submit record documents under provisions of Section 01700.
- B. Accurately record location of utilities remaining, rerouted utilities, new utilities by horizontal dimensions and elevations or inverts.

### **1.3 PROTECTION**

- A. Protect trees, shrubs, lawns and other features remaining as portion of final landscaping.
- B. Protect bench marks, existing structures, fences, roads, sidewalks, paving and curbs.
- C. Protect above or below grade utilities which are to remain.
- D. Repair damages at no cost to Owner.

## **PART 2 PRODUCTS**

NOT USED

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify site conditions under provisions of Sections 01100 and 01300.
- B. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.

### **3.2 PREPARATION**

- A. Obtain utilities locate before starting work.
- B. Notify affected utility companies before starting work and comply with their requirements.
- C. Identify and mark utilities.
- D. Identify required lines, levels, contours and datum.
- E. Notify utility company to remove or relocate utilities.
- F. Requested approval of excavated materials to be designated as topsoil or structural fill from Architect before stockpiling.

### **3.3 PROTECTION**

- A. Maintain and protect existing utilities remaining which pass through work area.
- B. Upon discovery of unknown utility or concealed conditions, discontinue affected work and notify Architect.
- C. Protect plant life, trees, lawns and other features remaining as portion of final landscaping.

- D. Protect bench marks, existing structures and site improvements from damage.
- E. Protect excavations to prevent cave-ins.

**3.4 TOPSOIL EXCAVATION**

- A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.
- B. Stockpile in area designated on site to depth not exceeding 8 feet and protect from wind and erosion.
- C. Remove excess topsoil not intended for reuse, from site.

**3.5 SUBSOIL EXCAVATION**

- A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded. Subsoil to be used for general grading.
- B. When excavating through roots, perform Work by hand and cut roots with sharp axe. Coordinate cutting roots of plants and trees to remain with Architect.
- C. Remove excess subsoil not intended for reuse, from site.

**3.6 FILLING**

- A. Fill areas to contours and elevations with materials in acceptable condition, unsaturated and unfrozen.
- B. Place fill material in continuous layers; 8 inch maximum thickness and compact in accordance with schedule at end of this section.
- C. Maintain optimum moisture content of fill materials to attain required compaction density.
- D. Slope grade away from building minimum 5% for 10 foot, minimum, unless noted otherwise.
- E. Make grade changes gradual. Blend slope into level areas.
- F. Repair or replace items indicated to remain damaged by excavation or filling.

**3.7 TOLERANCES**

- A. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

**3.8 SCHEDULES**

- A. Subsoil Fill for General Grading:
  - 1. Fill Type "F": To subgrade elevation.
  - 2. Compact uniformly to minimum 95 percent of maximum density.
- B. Subsoil Fill for Structural Fill:
  - 1. Fill Type "A": Thickness required to bring compacted level to underside of the vapor barrier. See structural drawings.
- C. Topsoil Fill:
  - 1. Fill Type "E": To subgrade elevation.
  - 2. Compact uniformly to minimum 90 percent of maximum density.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Excavating for building foundations.
  - 2. Excavating for slabs-on-grade.
  - 3. Excavating for site improvements and structures.
- B. Related Sections:
  - 1. Section 02230 - Site Clearing.
  - 2. Section 02311 - Rough Grading: Topsoil and subsoil removal from site surface.
  - 3. Section 02320 - Backfill.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION****3.1 PREPARATION**

- A. Obtain utilities location before starting work.
- B. Notify affected utility companies before starting work and comply with their requirements.
- C. Identify and mark utilities.
- D. Identify required lines, levels, contours and datum.
- E. Notify utility company to remove or relocate utilities.
- F. Request approval of excavated materials to be designated as topsoil from Architect before stockpiling.
- G. Request approval of excavated materials to be designated as structural fill from Architect before stockpiling.

**3.2 PROTECTION**

- A. Maintain and protect existing utilities remaining which pass through work area.
- B. Upon discovery of unknown utility or concealed conditions, discontinue affected work and notify Architect.
- C. Protect plant life, trees, lawns and other features remaining as portion of final landscaping.
- D. Protect bench marks, existing structures and site improvements from damage.
- E. Protect excavations to prevent cave-ins.

**3.3 EXCAVATION**

- A. Underpin adjacent structures and flatwork which may be damaged by excavation work.
- B. Excavate subsoil to accommodate building foundations, slabs-on-grade, paving, site structures and other construction operations.
- C. Over-excavate for footings requiring bearing on compacted structural fill.
- D. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with Section 02320.
- E. Slope banks with machine to angle repose or less until shored.
- F. Do not interfere with 45 degree bearing splay of foundations.
- G. Grade top perimeter of excavation to prevent surface water from draining into excavation.

- H. Trim excavation. Remove loose matter.
- I. Notify Architect of unexpected subsurface conditions.
- J. Correct areas over-excavated with structural fill Type "A" specified in Section 02320, compacted to 95 percent proctor density.
- K. Remove excess and unsuitable material from site.
- L. Stockpile excavated material in areas designated on site in accordance with Section 02311.
- M. Repair or replace items indicated to remain damaged by excavation.

**3.4 FIELD QUALITY CONTROL**

- A. Section 01400 - Quality Requirements: Testing and Inspection Services.
- B. Request visual inspection of bearing surfaces by Architect before installing subsequent work.

**3.5 PROTECTION**

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- C. Protect structures, utilities, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.
- D. Dewatering: Provide and maintain at all time during construction ample means and devices with which to promptly remove and dispose of all water from every source entering the excavations or other parts of Work. Dewater by means which will ensure dry excavations and the preservation of the final lines and grades of bottoms of excavations.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Subgrade redensification.
  - 2. Backfilling building perimeter to subgrade elevations.
  - 3. Backfilling site structures to subgrade elevations.
  - 4. Fill under slabs-on-grade.
  - 5. Fill under paving.
  - 6. Fill for over-excavation and miscellaneous fill.
  - 7. Compaction Requirements.
- B. Related Sections:
  - 1. Section 02311 - Rough Grading: Site filling.
  - 2. Section 02315 - Excavation.
  - 3. Section 02620 - Subdrainage: Filter aggregate and filter fabric.
  - 4. Section 03300 - Cast-in-Place Concrete: Concrete materials.

**1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort 912,400 ft-lbf/ft<sup>3</sup>.
  - 2. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.

**1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data for geotextile fabric indicating fabric and construction.
- C. Samples: Submit, in air-tight containers, 10 lb. sample of Type "A" fill to testing laboratory, if requested.
- D. Materials Source: Submit name of imported fill materials suppliers.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

**PART 2 PRODUCTS****2.1 FILL MATERIAL APPROVAL**

- A. All the fill materials shall be subject to approval of the Architect.
- B. Notify Architect at least three days in advance of importing fill materials for coordination of materials inspections.

**2.2 FILL MATERIALS**

- A. Type "A" - Structural Fill Crushed Rock: 3/4 inch crushed rock meeting requirements of the Oregon Standard Specifications for Highway Construction.
- B. Type "B" - Free Draining Crushed Rock: 1/4 inch to 3/4 inch clean crushed gravel or crushed rock, free of organic materials and fines.
- C. Type "C" - Sand: ANSI/ASTM C136. Natural river or bank fine granular material, naturally produced by rock disintegration and free from organic material, mica, loam, clay and other deleterious substances, as approved. Maximum particle size of 1/4 inch, with a gradation which allows 90 percent to 100 percent by weight to pass a No. 4 sieve and not more than 5 percent to pass a No. 200 sieve (wet sieve analysis).



- D. Type "D" - Structural Shale: 4 inch minus pit-run shale from Architect approved pits. Maximum size shall not exceed 50% of the compacted thickness of each lift. The aggregate fraction passing a 1/4" sieve shall not be less than 10% nor more than 40% of the whole, by weight, and not more than 8% of the total aggregate shall pass a No. 200 sieve within these limits. The aggregate shall be so graded that the materials will be dense and firm when compacted.
- E. Type "E" - Topsoil: Natural, fertile, sandy loam, free of vegetation, rocks, debris, etc.
- F. Type "F" - On-Site Earth Fill: Approved on-site excavated earth fill materials, free of clays, vegetation, rocks and other deleterious materials.
- G. Type "G" - Filter Aggregate: Clean, drainable, regular or round natural gravel free from shale, clay, organic materials and debris.
- H. Type "H" – Not Used
- I. Type "I" - Concrete Structural Fill: At the Contractors option, for areas requiring structural fill, lean concrete with 28 day compressive strength of 2000 PSI may be used in lieu of granular materials for areas approved by the Architect.

### 2.3 ACCESSORIES

- A. Geotextile Fabric:
  - 1. Non-woven: Phillips Supac 4NP or approved equal with an 18" lap.
  - 2. Woven: AMOCO 2006 or approved equal with an 18" lap.
  - 3. Filter: Brighton by Products Co. "Soil Check" or approved equal.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.
- C. Verify structural ability of unsupported walls to support loads imposed by fill.
- D. Verify stockpiled fill to be reused is approved.

### 3.2 PREPARATION

- A. Moisture condition soil to 3 percent above optimum scarify subgrade and compact to 95 percent per ASTM D698.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill and compact to density equal to or greater than requirements for subsequent fill material.
- C. Scarify subgrade surface to depth of three inches.
- D. Proofroll under observation by the Architect or Soils Engineer to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

### 3.3 BACKFILLING

- A. Backfill areas to contours and elevations with unfrozen and unsaturated materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, or spongy subgrade surfaces.
- C. Place fill material in continuous layers and compact in accordance with schedule at end of this section.
- D. After completion of footings and slabs-on-grade and removal of forms, clean the excavation of all trash and debris before placement of backfill. In placing backfill, take special care to prevent any wedge action, eccentric loading or overloading of the

structure by equipment used in compacting the backfill material and to prevent damaging the placed concrete.

- E. Irregularities, depression and other defects which develop during placing and compacting of materials shall be corrected by removal and replacement with sound material as approved by Architect.
- F. Place all structural fill in loose lifts not exceeding 8 inches. Spread each lift with a bulldozer weighing a minimum of 30,000 pounds. Compact each lift to 95 percent of the standard Proctor maximum dry unit weight determined in accordance with ASTM D698 (AASHTO T-99). Compact with smooth steel-wheeled vibratory rollers (48 inch dia. drum) capable of producing a minimum of 18,000 pounds dynamic pressure. Each lift shall be compacted with at least four passes of the vibratory roller. In confined areas, such as trenches, structural granular fill shall be placed in loose lifts not exceeding 6 inches and shall be compacted to 95 percent of the standard Proctor maximum dry unit weight determined in accordance with ASTM D698 (AASHTO T-99D).
- G. Employ placement method that does not disturb or damage other work.
- H. Maintain optimum moisture content of backfill materials to attain required compaction density.
- I. Backfill against supported foundation walls. Do not backfill against unsupported foundation walls.
- J. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
- K. Slope grade away from building minimum 5% for 10 feet, minimum unless noted otherwise.
- L. Make gradual grade changes. Blend slope into level areas.
- M. Remove surplus backfill materials from site.

### **3.4 TOLERANCES**

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Top Surface of Backfilling Within Building Areas: Plus or minus ½ inch from required elevations.
- C. Top Surface of Backfilling Under Paved Areas: Plus or minus ½ inch from required elevations.
- D. Top Surface of General Backfilling: Plus or minus 1 inch from required from required elevations.

### **3.5 FIELD QUALITY CONTROL**

- A. Section 01400 - Quality Requirements: Testing and inspection services.
- B. Testing: In accordance with ASTM D1557, ASTM D698.
- C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Proof roll compacted fill surfaces under slabs-on-grade and paving under observation of Architect or Soils Engineer.

### **3.6 FIELD QUALITY CONTROL**

- A. Compaction testing will be performed in accordance with AASHTO T-99D and under provisions of Section 01020.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

**3.7 PROTECTION OF FINISHED WORK**

- A. Section 01700 - Execution Requirements: Protecting finished work. Protect final subgrades from softening and erosion.
- B. Reshape and re-compact fills subjected to vehicular traffic.

**3.8 SCHEDULE**

- A. Interior Slab-On-Grade: 10 mil vapor barrier specified in Section 03300 over minimum 12 inches compacted thickness (95%) of Type "A" structural fill compacted to 95 percent (ASTM D1557).
- C. Footings and Piers: Undisturbed, native decomposed granite or 12 inches of Type "A" Structural Fill compacted to 95 percent (ASTM D1557) over smooth surface of footing excavation. Extend fill a minimum of 8 inches beyond all sides of footing.
- D. Exterior Concrete Sidewalk: Type "A" or "B" Fill, compacted to 4 inch thickness (95%) over redensified subgrade.
- E. Landscaped Area Subgrade: Type "F" Fill, thicknesses as required to meet design grades, compacted to 90 percent (ASTM D698).
- F. Landscape Area Topsoil: Type "E" Fill, rolled firmly into place to avoid future settling
  - 1. Lawn and Hydro-seed areas to receive minimum 4" topsoil.
  - 2. Shrub beds to receive 12" of topsoil measured from finish grade of walking or driving surface (not curb). Topsoil to be placed in 4" lifts, the first lift tilled into the subsurface layer.
  - 3. Tree Wells to receive 24" of topsoil and 8" around and below the root ball. Topsoil to be placed in 4" lifts, the first lift tilled into the subsurface layer.
- F. Paved Areas:
  - 1. Two inch thick paving - Type "A" Structural Fill compacted to 8 inch thickness over geotextile fabric over redensified subgrade. Top 6 inches of subgrade shall be scarified, brought to 3 percent over optimum moisture content and compacted to 95 percent (ASTM D698).
  - 2. Three inch thick paving - Type "A" Structural Fill compacted to 12 inch thickness over geotextile fabric over redensified subgrade as described above.
- I. Trenches: Shape trench bottoms to allow uniform placement of required pipe bedding material. Remove stones and sharp objects to avoid point loading. Bedding, backfill and compaction as indicated on drawings.
- J. Over Excavations: Fill authorized and unauthorized over-excavations as directed by Architect.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes:
  - 1. Fence framework, fabric, and accessories.
  - 2. Excavation for post bases.
  - 3. Concrete foundation for posts and center drop for gates.
  - 4. Manual gates and related hardware.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - 2. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
  - 3. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
  - 4. ASTM A569/A569M - Standard Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality.
  - 5. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
  - 6. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
  - 7. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.
  - 8. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
  - 9. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
- B. Chain Link Fence Manufacturers Institute:
  - 1. CLFMI - Product Manual.

### **1.3 SYSTEM DESCRIPTION**

- A. Fence Height: as indicated on Drawings.
- B. Fence Post and Rail Strength: Conform to ASTM F1043 Heavy Industrial Fence quality.

### **1.4 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.
- C. Product Data: Submit data on fabric, posts, accessories, fittings and hardware.
- D. Manufacturer's Installation Instructions: Submit installation requirements.

### **1.5 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Procedures for submittals.

### **1.6 QUALITY ASSURANCE**

- A. Supply material in accordance with CLFMI - Product Manual.
- B. Perform installation in accordance with ASTM F567.

### 1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum three years experience.

### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.
- C. Identify each package with manufacturer's name.
- D. Store fence fabric and accessories in secure and dry place.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Fencing Manufacturers:
  - 1. Anchor Fence Inc.
  - 2. Cyclone Inc.
  - 3. Substitutions: Section 01600 - Product Requirements.

### 2.2 MATERIALS AND COMPONENTS

- A. Fencing Materials:
  - 1. Framework: ASTM A-120; Schedule 40 steel pipe, standard weight.
    - a. Terminal Posts: 2.88 inch steel pipe.
    - b. Gate Posts:
      - 1) Under 6' wide 2.88 inches diameter steel pipe.
    - c. Top and Bottom Rails: 1.66 inch diameter, plain end, sleeve coupled steel pipe.
    - d. Gate Frame: ASTM F900 with welded corners.
  - 2. Fabric: FS RR-F-191; 2 inch diamond mesh; 9 gage galvanized wire; top and bottom selvages knuckled; 6 foot height.
  - 3. Sleeves, Brackets, Bands, Clips, Rail Ends, Fasteners and Fittings: Steel; galvanized finish.
  - 4. Caps: Cast steel or malleable iron, galvanized, sized to post dimensions, set screw retained.
  - 5. Tension Bars: 1/4" x 3/4" galvanized steel.
  - 6. Gate Hardware: Master Halco or approved.
    - a. Hinges: Industrial malleable, two each leaf, ball and socket type, Series 15750.
    - b. Gate Fork Latch: Malleable, Series 16600.
    - c. Latch Assembly: Malleable, Series 17200.
    - d. Locking: Provide padlock capability.
  - 7. Cold Galvanizing Compound: As manufactured by ZRC Products Co., or approved.
  - 8. Concrete: 3000 PSI at 28 days.

### 2.3 FINISHES

- A. Framework and Accessories: 1.8 oz./sq.ft. Zinc coating in accordance with ASTM A90.

- B. Fabric: 1.2 oz. sq. ft. Zinc coating in accordance with ASTM A90.

#### **2.4 FABRICATION**

- A. Fabricate fences and gates to the configurations indicated.
- B. Fabricate brackets for mounting to slab and to overhead structure. Patch welds with cold galvanized compound.
- C. Fabricate gates and steel pipe with welded or steel fitted corners; gates and fitted corners shall have braces and truss rods to hold gate in accurate alignment. Gates shall conform to CLFMI recommendations for standard industrial service.

### **PART 3 EXECUTION**

#### **3.1 INSTALLATION**

- A. Install framework, fabric, accessories and gates in accordance with ASTM F567.
- B. Line Post Footing Depth Below Finish Grade: ASTM F567.
- C. Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F567.
- D. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.
- E. Install top rail through line post tops and splice with 6 inch long rail sleeves.
- F. Install center and bottom brace rail on corner gate leaves.
- G. Place fabric on outside of posts and rails.
- H. Do not stretch fabric until concrete foundation has cured seven days.
- I. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.
- J. Position bottom of fabric 2 inches above finished grade.
- K. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.
- L. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.
- M. Install bottom tension wire stretched taut between terminal posts.
- N. Support gates from gate posts. Do not attach hinged side of gate on building wall.
- O. Install gate with fabric to match fence. Install three hinges on each gate leaf, latch, catches, and drop bolt.
- P. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.
- Q. Excavate holes for posts to diameter and spacing indicated on Drawings without disturbing underlying materials.
- R. Center and align posts. Place concrete around posts, and vibrate or tamp for consolidation. Verify vertical and top alignment of posts and make necessary corrections.
- S. Extend concrete footings 1 inch above grade, and trowel, forming crown to shed water.

#### **3.2 ERECTION TOLERANCES**

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Maximum Variation From Plumb: 1/4 inch.
- C. Maximum Offset From Indicated Position: 1 inch.
- D. Minimum distance from property line: 6 inch.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Formwork for cast-in place concrete.
  - 2. Shoring, bracing, and anchorage.
  - 3. Form accessories.
  - 4. Form stripping.
- B. Related Sections:
  - 1. Section 01300 - Administrative Requirements: Field engineering. Builders layout.
  - 2. Section 03200 - Concrete Reinforcement.
  - 3. Section 03300 - Cast-In-Place Concrete.
  - 4. Section 05500 - Metal Fabrications: Products placement by this section.
  - 5. Section 06100 - Rough Carpentry.
- C. Alternates: Refer to Section 01200 for possible affect upon work in this section.

### **1.2 REFERENCES**

- A. American Concrete Institute:
  - 1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
  - 2. ACI 301 - Specifications for Structural Concrete.
  - 3. ACI 318 - Building Code Requirements for Structural Concrete.
  - 4. ACI 347 - Guide to Formwork for Concrete.
- B. The Engineered Wood Association:
  - 1. APA/EWA PSI - Voluntary Product Standard for Construction and Industrial Plywood.
- C. American Society for Testing and Materials:
  - 1. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- D. West Coast Lumber Inspection Bureau:
  - 1. WCLIB - Standard Grading Rules for West Coast Lumber.

### **1.3 QUALITY ASSURANCE**

- A. Perform Work in accordance with ACI 347.

### **1.4 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate this Section with other sections of work, requiring attachment of components to formwork. Coordinate the design, construction and installation of concrete formwork with the requirements for openings, sleeves, chases, reglets, pipes, recesses, nailers, anchors, ties, inserts and other imbedded items.

## **PART 2 PRODUCTS**

### **2.1 WOOD FORM MATERIALS**

- A. Lumber Forms:
  - 1. Application: Use for edge forms and unexposed finish concrete.

2. Boards: 6 inches or 8 inches in width, ship lapped or tongue and groove, "Standard" Grade Douglas Fir, conforming to WCLIB Standard Grading Rules for West Coast Lumber. Surface boards on four sides.
- B. Plywood Forms:
  1. Application: Use for exposed finish concrete.
  2. Forms: Conform to PS 1; full size 4 x 8 feet panels; each panel labeled with grade trademark of APA/EWA.
  3. Plywood where "Smooth Finish" is required, as indicated on Drawings: APA/EWA "HD Overlay Plyform Structural I Exterior" grade, minimum of 3/4 inch thick.
- C. Framing, Studding and Bracing: Stud or No. 3 structural light framing grade.

## 2.2 FORMWORK ACCESSORIES

- A. Metal snap-off type acting as spreaders and leaving no metal within 3/4 inch of concrete face. No wire ties permitted.
- B. Form Anchors and Hangers:
  1. Do not use anchors and hangers exposed concrete leaving exposed metal at concrete surface.
  2. Symmetrically arrange hangers supporting forms from structural steel members to minimize twisting or rotation of member.
  3. Penetration of structural steel members is not permitted.
- C. Form-Release Agents:
  1. For Unexposed Concrete: Any type that will not interfere with bond of applied finishes.
- D. Fillets for Chamfered Corners and Joints: Clear white pine, sizes as detailed, maximum possible lengths.
- E. Vapor Retarder: Two ply cross-laminated high density polyethylene, perm rating .045, Rufco Super Sampson SS 300 by Raven Industries, or approved.
- F. Bituminous Joint Filler: ASTM D1751.1/4 inch thick depth required to bring top to within 1/4 inch of surface Sonneborn "Sonoflex" "F" or equal.
- G. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.
- H. Construction Joints: Galvanized steel, 24 gauge tongue and groove type, with removable top strip sealant trough, knockout holes at 6 inches o.c. and metal anchors.
- I. Walk Sleeves: Schedule 40 PVC, 3 inch diameter, 8 inches longer each side of cover. Cover ends of unused sleeves with duct tape.
- J. Bolsters: ASTM ACI 315 with load bearing pad to prevent puncture of vapor retarder.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify lines, levels, and centers before proceeding with formwork. Verify dimensions agree with Drawings.
- C. When formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Architect.

### 3.2 INSTALLATION

- A. Earth Forms:



1. Earth forms are not permitted except for footings below grade. Ensure minimum size as specified on plans.
- B. Formwork - General:
  1. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.
  2. Carefully verify horizontal and vertical positions of forms. Correct misaligned or misplaced forms before placing concrete.
  3. Complete wedging and bracing before placing concrete.
- C. Forms for Smooth Finish Concrete:
  1. Use plywood forms.
  2. Use clean and smooth plywood, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish.
  3. Install with close-fitting square joints between separate sheets without springing into place.
  4. Use full size sheets of plywood wherever possible.
  5. Tape joints to prevent protrusions in concrete.
  6. Use care in forming and stripping wood forms to protect corners and edges.
  7. Level and continue horizontal joints.
  8. Keep wood forms wet until stripped.
- D. Forms for Surfaces to Receive Dampproofing: Use plywood. After erection of forms, tape form joints to prevent protrusions in concrete.
- E. Framing, Studding and Bracing:
  1. Calculate form pressures and design formwork in conformance with ACI 347.
  2. Space studs at 12 inches on center maximum and conforming to formwork designs.
  3. Size framing, bracing, centering, and supporting members with sufficient strength to maintain shape and position under imposed loads from construction operations.
  4. Distribute bracing loads over base area on which bracing is erected.
  5. When placed on ground, protect against undermining, settlement or accidental impact.
- F. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- G. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- H. Obtain Architect's approval before framing openings in structural members not indicated on Drawings.
- I. Install fillet and chamfer strips on external corners of exposed concrete foundations.
- J. Do not reuse wood formwork more than four times for concrete surfaces to be exposed to view. Do not patch formwork.

### **3.3 APPLICATION - FORM RELEASE AGENT**

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces are indicated to receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

- D. Reuse and Coating of Forms: Thoroughly clean forms and reapply form coating before each reuse. For exposed work, do not reuse forms with damaged faces or edges. Apply form coating to forms in accordance with manufacturer's specifications. Apply form coatings before placing reinforcing steel.

### 3.4 INSTALLATION - INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Install formed openings for items to be embedded in or passing through concrete work.
- B. Locate and set in place items required to be cast directly into concrete.
- C. Coordinate with Work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Install accessories straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- F. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- G. Form Ties:
  - 1. Use sufficient strength and sufficient quantity to prevent spreading of forms.
  - 2. Place ties at least 3/4 inch away from finished surface of concrete.
  - 3. Leave inner rods in concrete when forms are stripped.
  - 4. In exposed surfaces, space form ties equidistant, symmetrical and aligned vertically and horizontally unless otherwise shown on Drawings.
- H. Arrangement: Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- I. Construction Joints:
  - 1. Install surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints.
  - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
  - 3. Show no overlapping of construction joints. Construct joints to present same appearance as butted plywood joints.
  - 4. Arrange joints in continuous line straight, true and sharp.
  - 5. Horizontal construction joints in vertical concrete shall be intentionally roughed to 1/4 inch amplitude as described by ACI 318, Section 11.7.9.
- J. Embedded Items:
  - 1. Make provisions for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, water stops, and other features.
  - 2. Do not embed wood or uncoated aluminum in concrete.
  - 3. Obtain installation and setting information for embedded items furnished under other Specification sections.
  - 4. Securely anchor embedded items in correct location and alignment prior to placing concrete.
  - 5. Verify conduits and pipes, including those made of coated aluminum, meet requirements of ACI 318, Section 6.3.
- K. Openings for Items Passing Through Concrete:
  - 1. Frame openings in concrete where indicated on Drawings. Establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections.
  - 2. Coordinate work to avoid cutting and patching of concrete after placement.

3. Perform cutting and repairing of concrete required as result of failure to provide required openings.
- L. Screeds:
  1. Set screeds and establish levels for tops of concrete slabs and levels for finish on slabs.
  2. Slope slabs to drain where required or as shown on Drawings.
  3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms. Remove freestanding water.
- M. Screed Supports:
  1. For concrete over waterproof membranes and vapor barrier membranes, use cradle, pad or base type screed supports which will not puncture membrane.
  2. Staking through membrane is not permitted.

### **3.5 FORM CLEANING**

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
- D. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

### **3.6 FORM REMOVAL**

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads and removal has been approved by Architect
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
- D. Leave forms in place for at least the number of days as specified in ACI 347, Section 3.7 or until the concrete reaches 70 percent of design strength.

### **3.7 ERECTION TOLERANCES**

- A. Construct formwork to maintain tolerances required by ACI 301 unless otherwise noted.
- B. Tolerances: Construct formwork to produce completed concrete surfaces within construction tolerances specified in ACI 117.
- C. Construct formwork so that anchor bolt setting tolerances shall be +/- 1/8 inch within a given group, such as steel connections or equipment bases, and within groups in relation to other groups, such as column centers.
- D. The tolerance for column centers shall not be cumulative, so that the actual overall dimension of a series of columns, for example, building bays shall still be within +/- 1/8 inch of the over all dimension indicated.
- E. Where tighter tolerances are required to accommodate equipment or other items specified in other sections, construct formwork to the most restrictive tolerance.

### **3.8 FIELD QUALITY CONTROL**

- A. Section 01400 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.

SECTION 03100

CONCRETE FORMWORK

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- C. Notify Architect after placement of reinforcing steel in forms, but prior to placing concrete.
- D. Schedule concrete placement to permit formwork inspection before placing concrete.

**3.9 SCHEDULES**

- A. Concrete Walls Not Exposed To View: Lumber or form plywood.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Reinforcing bars.
  - 2. Welded wire fabric.
  - 3. Reinforcement accessories.
- B. Related Sections:
  - 1. Section 03100 - Concrete Formwork.
  - 2. Section 03300 - Cast-in-Place Concrete.

### **1.2 REFERENCES**

- A. American Concrete Institute:
  - 1. ACI 117 - Standard Specification for Tolerances for Concrete Construction and Materials.
  - 2. ACI 301 - Specifications for Structural Concrete.
  - 3. ACI 315 - Details and Detailing of Concrete Reinforcement.
  - 4. ACI 318 - Building Code Requirements for Structural Concrete.
  - 5. ACI SP-66 - ACI Detailing Manual.
- B. American Society for Testing and Materials:
  - 1. ASTM A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
  - 2. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
  - 3. ASTM A497 - Standard Specification for Steel Welded Wire Fabric, Deformed for Concrete Placement.
  - 4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 5. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
- C. American Welding Society:
  - 1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.
- D. Concrete Reinforcing Steel Institute:
  - 1. CRSI - Manual of Standard Practice.
  - 2. CRSI - Placing Reinforcing Bars.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and welded wire fabric, bending and cutting schedules, and supporting and spacing devices.
- C. Certificates: Submit AWS qualification certificate for welders employed on the Work.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- E. Submit certified copies of mill test report of reinforcement materials analysis.

### **1.4 QUALITY ASSURANCE**

- A. Perform Work in accordance with CRSI - Manual of Standard Practice, ACI 117 and ACI 301.

### **1.5 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate with placement of formwork, formed openings and other Work.

## **PART 2 PRODUCTS**

### **2.1 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade; deformed billet steel bars, unfinished.
- B. Threaded Reinforcing Steel: ASTM A615/A615M, 75 ksi yield grade, all-threaded reinforcing steel with continuous rolled thread, deformed pattern. Williams All-Thread Reinforcing Steel Grade 75 or approved equal.
- C. Welded Reinforcing Steel: ASTM A706/A706M, 60 ksi yield strength; deformed low-alloy steel bars, unfinished.
- D. Welded Steel Wire Fabric: ASTM A497 Deformed Type; in flat sheets; unfinished.

### **2.2 ACCESSORY MATERIALS**

- A. Tie Wire: Minimum 16 gage annealed type ASTM A82.
- B. Chairs, Bolsters, Bar Supports, Spacers: ASTM ACI 315 sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor retarder puncture.
- C. Hex nuts, washers and bearing plates Grade 75 all-thread reinforcing steel. Williams Form Engineering Co. or approved equal.

### **2.3 FABRICATION**

- A. Fabricate concrete reinforcement in accordance with CRSI Manual of Practice, ACI 315 and ACI 318.
- B. Weld reinforcement in accordance with AWS D1.4.
- C. Locate reinforcement splices not indicated on Drawings, at point of minimum stress.

## **PART 3 EXECUTION**

### **3.1 PLACEMENT**

- A. Place, support and secure reinforcement against displacement within ACI 117 tolerances. Do not deviate from required position.
- B. Do not displace or damage vapor retarder.
- C. Accommodate placement of formed openings.
- D. Maintain concrete cover around reinforcement as follows:
  - 1. Concrete deposited against earth: 3 inches.
  - 2. Concrete formed surfaces exposed to ground and weather:
    - #5 and smaller bar - 1-1/2 inches.
    - #6 and larger bar - 2 inches.
  - 3. Concrete surfaces not exposed to weather or in contact with the ground:
    - #11 and smaller bar - 3/4 inches.
- E. Fabricate and install all-thread column anchor bolts as shown, gauges and tolerances to match column base plates.

### **3.2 FIELD QUALITY CONTROL**

- A. Section 01400 - Quality Requirements: Testing and Inspection Services.

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes cast-in-place concrete for the following:
  - 1. Foundation walls.
  - 2. Slabs on grade.
  - 3. Control, expansion and contraction joint devices.
  - 4. Equipment pads.
  - 5. Thrust blocks.
  - 6. Manholes.
  - 7. Bollard Fill.
  - 8. Patching.
  - 9. Optional Structural Fill.
  - 10. Concrete Curing.
  - 11. Concrete Finishing.
- B. Related Sections
  - 1. Section 01400 - Quality Requirements: Concrete Testing.
  - 2. Section 02320 - Backfill: Sand layer over vapor retarder.
  - 3. Section 03100 - Concrete Forms and Accessories: Formwork, accessories and vapor retarder.
  - 4. Section 03200 - Concrete Reinforcement.
  - 5. Section 07900 - Joint Sealers.
- C. Alternates: Refer to Section 01200 for possible effect upon work in this section.

### **1.2 REFERENCES**

- A. American Concrete Institute:
  - 1. ACI 301 - Specifications for Structural Concrete.
  - 2. ACI 305 - Hot Weather Concreting.
  - 3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
  - 4. ACI 308 - Standard Practice for Curing Concrete.
  - 5. ACI 318 - Building Code Requirements for Structural Concrete.
- B. American Society for Testing and Materials:
  - 1. ASTM C33 - Standard Specification for Concrete Aggregates.
  - 2. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
  - 3. ASTM C150 - Standard Specification for Portland Cement.
  - 4. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
  - 5. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
  - 6. ASTM C1017 - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
  - 7. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
  - 8. ASTM E1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on joint devices, attachment accessories, admixtures and curing materials.
- C. Design Data:

1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
  - a. Hot and cold weather concrete work.
  - b. Air entrained concrete work.
2. Identify mix ingredients and proportions, including admixtures.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Project Record Documents: Accurately record actual locations of embedded utilities, sidewalk sleeves and components concealed from view in finished construction.

#### **1.5 QUALITY ASSURANCE**

- A. Perform Work in accordance with ACI 301.

#### **1.6 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.
- C. Coordinate with Owners Testing Laboratory requirements of Section 01400.

### **PART 2 PRODUCTS**

#### **2.1 CONCRETE MATERIALS**

- A. Cement: ASTM C150, Type I - Normal.
  1. Portland Cement, Type 1.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and not detrimental to concrete.

#### **2.2 ADMIXTURES**

- A. Admixtures classified as qualified by the Oregon Department of Transportation Qualified Product List (ODOT QPL) may be used provided that the mix design meets minimum specified design strength and does not exceed specified water/cement ratios.
- B. If two or more admixtures are used in the same mix, they shall be furnished by the same admixture manufacturer and certified to be compatible for use together.
- C. Admixtures:
  1. Air-Entraining, ASTM C260
  2. Water Reducing, ASTM C494, Type "A"
  3. Water Reducing and Retarding, ASTM C494, Type "E"
  4. Water Reducing, High Range, ASTM C490, Type "G"

#### **2.3 ACCESSORIES**

- A. Bonding Agent: Acrylic latex, non-rewettable type.
  1. Manufacturers:
    - a. The Burke Company, Burke Acrylic Bondcrete.
    - b. Thoro System Products, Acryl 60.
    - c. W.R. Grace, Daraweld C.
- B. Bond Breaker:
  1. Nonstaining type, providing a positive bond prevention.
  2. Manufacturer and Product



- a. Williams Distributors, Inc., Seattle WA, Williams Tilt-Up Compound.
  - b. Burke Co., San Mateo, CA Burke Clean Lift Bond Breaker or Burke Tilt Free Bond Breaker.
- C. Structural Epoxy Bonding Adhesive: 2-component, 100% solids compound suitable for use on dry or damp surfaces.
  - 1. Manufacturer
    - a. Simpson Strong Tie
    - b. Hilti
- D. Non-Shrink Grout:
  - 1. Manufacturer
    - a. Master Builders; Masterflow 713, Masterflow 928.
    - b. The Burke Company; Burke Non-ferrous Non-shrink Grout.
    - c. W.R. Meadows "Sealtight 588"
  - 2. Type: CRD C621; non-metallic; capable of achieving a 95% bearing under a 4 x 4 ft. baseplate when grout is placed at a fluid consistency.
- E. Patching Mortar: Epoxy type, 100% solids, suitable for use on damp or dry surfaces.
  - 1. Manufacturer
    - a. Sika Chemical Corporation; Sikadur 43 Patch-Pak.
    - b. The Burke Company; Burkepoxy Mortar.
- F. Patching Compound: Free flowing, polymer modified, cementitious topping.
  - 1. Manufacturers
    - a. Vertical or Overhead Applications
      - 1) Sika Corporation; SikaRepair 223.
      - 2) Burke Company; Skimcrete
    - b. Other Applications
      - 1) Sika Chemical Corporation; Sikatop 121.
      - 2) Burke Company; Burke-Krete.
- G. Evaporation Retardant:
  - 1. Manufacturers
    - a. Master Builders; Confilm.
    - b. The Burke Company; Burke Finishing Aid Concentrate.
- H. Hardener: Sonneborn Sonocrete Kure-N-Harden or approved equal.

#### 2.4 JOINT DEVICES AND FILLER MATERIALS

- A. Joint Filler Type A: ASTM D 1751; Asphalt impregnated fiberboard or felt, 1/4 in. thick; tongue and groove profile.
- B. Joint Filler Type B: ASTM D 1752; Closed cell polyvinyl chloride foam, resiliency recovery of 90% if not compressed more than 50% of original thickness.
- C. Joint Filler Type C: ASTM D 1752; Premolded sponge rubber, fully compressible with recovery rate of minimum 95%.
- D. Epoxy Joint Filler: 2-component, 100% solids compound; minimum 50 shore D hardness.
  - 1. Manufacturer
    - a. Metzger/McGuire Co.; MM-80.
    - b. The Burke Company; Burkepoxy Reflex Joint Filler.
- E. Sealant and Primer: as specified in Section 07900.

**2.5 CONCRETE MIX**

- A. Mix and deliver concrete in accordance with ASTM C94, Option A.
- B. Mix cement, fine and coarse aggregates, admixtures, and water to exact proportions of mix designs.
- C. Measure fine and coarse aggregates separately according to approved method which provides accurate control and easy checking.
- D. Adjust grading to improve workability; do not add water, unless otherwise recommended by the Project Inspector.
- E. Maintain proportions, values, and factors or prove mixes throughout Work.
- F. Admixtures: Use automatic metering dispenser to introduce admixture into mix.
- G. Use hardener admixture for exposed concrete slabs without other finished and foundation walls receiving dampproofing.

**2.6 CONCRETE CLASSES**

- A. Where not otherwise indicated on the Drawing or in other Sections, provide concrete in accordance with the following Table:

CLASS**	MINIMUM CEMENT	
	STRENGTH	SLUMP (MAX)*
Building Foundations	3000 PSI	4 IN.
Slabs on Grade (Interior floor)	3500 PSI	4 IN.
Slabs on Grade (Exterior Walkways)	4000 PSI	3 IN.
Columns/Walls	4000 PSI	4 IN.
Items not otherwise indicated	3000 PSI	4 IN.

\* Nominal maximum aggregate size shall be 3/4 inch.

\*\* Air Dry Weight shall not exceed 150 lbs./cu. ft. for normal weight concrete.

**PART 3 EXECUTION****3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify requirements for concrete cover over reinforcement.
- C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

**3.2 PREPARATION**

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.

- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout or approved epoxy.

### 3.3 PLACING CONCRETE

- A. Handle, place, finish and cure concrete in accordance with ACI 301.
- B. Notify Architect minimum one normal business day prior to commencement of operations.
- C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
- D. Install vapor retarder under interior slabs on grade in accordance with ASTM E1643. Lap joints minimum 6 inches and seal watertight by taping edges and ends.
- E. Repair vapor barrier damaged during placement of concrete reinforcing. Repair with vapor barrier material; lap over damaged areas minimum 6 inches seal watertight.
- F. Separate slabs on grade from vertical surfaces with 1/4 inch thick joint filler.
- G. Place joint filler in floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- H. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface. Conform to Section 07900 for finish joint sealer requirements.
- I. Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- J. Install joint device anchors. Maintain correct position to allow joint cover to be flush with floor and wall finish.
- K. Install joint covers in one piece longest practical length, when adjacent construction activity is complete.
- L. Apply sealants in joint devices in accordance with Section 07900.
- M. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- N. Place concrete continuously between predetermined expansion, control, and construction joints.
- O. Consolidate concrete with mechanical vibrators. Ensure that more than one working vibrator is available during placement.
- P. Do not interrupt successive placement; do not permit cold joints to occur. Insert mechanical vibrator beyond potential cold joints.
- Q. Place floor slabs in saw cut pattern indicated.
- R. Saw cut joints on the same day as placement as soon as possible after concrete sets. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
- S. Screed floors and slabs on grade level, maintaining surface flatness of maximum 1/4 inch.

### 3.5 CONCRETE FINISHING

- A. Provide formed exposed concrete walls and columns with smooth rubbed finish.
- B. Finish concrete floor surfaces in accordance with ACI 301.
- C. Steel trowel surfaces receiving carpeting, resilient flooring and seamless flooring.
- D. Steel trowel surfaces which are indicated to be exposed.
- E. **Steel trowel, light broom finish at surfaces receiving tile.**
- F. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1/8 inch per foot within a 12 inch radius of drain. Light broom finish for all exterior flatwork except at patching existing walks where existing finish shall be matched.

**3.6 CURING AND PROTECTION**

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Continuously moist-cure floors surfaces in accordance with ACI 301 by fog spray, continuously moist burlap, moist vinyl-coated burlap or other comparable method approved by the architect. Cure for a minimum of seven days. Termination of curing shall take place by allowing curing material to dry before removing.
- D. Ponding: Maintain 100 percent coverage of water over floor slab areas continuously for 7 days.
- E. Spraying: Spray water over floor slab areas and maintain wet for 7 days.

**3.7 FIELD QUALITY CONTROL**

- A. Section 01400 - Quality Requirements: Testing and Inspection Services.
- B. Field inspection and testing will be performed in accordance with ACI 301 and under provisions of Section 01400.
- C. Provide free access to Work and cooperate with appointed firm.
- D. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- E. Tests of cement and aggregates may be performed to ensure conformance with specified requirements.
- F. Four concrete test cylinders will be taken for every 75 or less cu yds of each class of concrete placed.
- G. One slump test will be taken for each set of test cylinders taken.
- H. One air content test will be made for each set of test cylinders taken.
- I. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.

**3.8 PATCHING**

- A. Allow Architect to inspect concrete surfaces immediately upon removal of forms
- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Structural cracks are not Acceptable. Notify Architect upon discovery.
- C. Patch imperfections as directed by Architect in accordance with ACI 301.

**3.9 DEFECTIVE CONCRETE**

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by Architect.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

END OF SECTION

## **PART 1 GENERAL**

### **1.1\_ SUMMARY**

- A. Section includes concrete masonry units; mortar, grout reinforcement, anchorage, accessories.
- B. Related Sections:
  - 1. Section 01400 - Quality Requirements: Special Inspections required for designated CMU walls.
  - 2. Section 05500 - Metal Fabrications: Product requirements for loose steel lintels, fabricated steel items, for placement by this section.
  - 3. Section 07620 - Sheet Metal Flashing and Trim: Product requirements for reglets for flashings for placement by this section.
  - 4. Section 07900 - Joint Sealers: Rod and sealant at control and expansion joints.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 7. ASTM A153/A153M - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
  - 2. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 3. ASTM A 641/A641M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 4. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 5. ASTM A951 - Standard Specification for Masonry Joint Reinforcement.
  - 6. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale).
  - 7. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units.
  - 8. ASTM C140 - Standard Test Methods of Sampling and Testing Concrete Masonry Units.
  - 9. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale).
  - 10. ASTM C652 - Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale).  
ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- B. The Masonry Society:
  - 1. TMS MSJC - Building Code for Masonry Structures (ACI 530/ASCE 5/TMS 402), Specification for Masonry Structures (ACI 530.1/ASCE 6/TMS 602) and Commentaries.
- C. Building Codes:
  - 1. IBC – International Building Code, Oregon Revised Latest Edition - Requirements for Masonry Anchors, Hardware.

**1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal requirements.
- B. Product Data: Submit data for masonry units and fabricated wire reinforcement, wall ties, anchors and other accessories.
- C. Samples: Submit two samples of face brick units to illustrate color, texture and extremes of color range.
- D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

**1.4 QUALITY ASSURANCE**

- A. Perform Work in accordance with TMS MSJC Code and TMS MSJC Specification.

**1.5 QUALIFICATIONS**

- A. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

**1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Accept masonry units on site. Inspect for damage.

**1.7 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Product Requirements.
- B. Hot and Cold Weather Requirements: TMS MSJC Specification.

**1.8 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate masonry work with installation of window and door anchors, structural and metal fabrications.
- C. Coordinate installation with Special Inspections required by approval agency.

**PART 2 PRODUCTS**

**2.1 UNIT MASONRY ASSEMBLIES**

- A. Manufacturers:
  - 1. Willamette Graystone
  - 2. Mutual Materials Company
  - 3. Substitutions: Section 01600 - Product Requirements.

## 2.2 COMPONENTS

- B. Concrete Masonry Units:
1. Hollow Load Bearing Concrete Masonry Units (CMU): ASTM C90, Grade N, Type I - Moisture Controlled; normal or medium weight. 1900 PSI compressive strength on net area. Exposed units shall be appearance grade with linear shrinkage not exceeding 0.065 percent.
  2. Concrete Masonry Unit Size and Shape: Nominal modular size of 8 x 8 x 16 inches, and 4 x 8 x 16 inches. Furnish special units for 90 degree corners, bond beams, sloped caps, lintels, and other special shapes required.
  3. Texture and Color:
    - a. All CMU shall be split face to match existing CMU.

## 2.3 ACCESSORIES

- A. Single Wythe Joint Reinforcement: Truss type; steel wire, hot dip galvanized to ASTM A641/A641M Class 3 after fabrication. Dur-O-Wall extra heavy D/A 310 Truss or approved equal.
- B. Reinforcing Steel: As specified in Section 03200, sizes as shown, un-coated finish.
- C. Anchor Bolts: Headed, J-shaped or L-shaped.
- D. Mortar:
1. Portland Cement: ASTM C150, normal, Type I. Masonry cement prohibited.
  2. Mortar Aggregate: ASTM C144, standard masonry type; clean, dry.
  3. Hydrated Lime: ASTM C207, Type "S" for above grade, Type "M" for below grade.
  4. Water: Clean and potable.
  5. Mortar Pigments: Mineral pigments, non-fading and time proof.
  6. Mortar for Load-Bearing Walls and Veneer: ASTM C270, Type "S" for above grade, Type "M" for below grade, 1800 PSI at 28 day compressive strength. Color as selected.
- F. Grout: All grout shall be proportioned to UBC Table 21-B for course grout, transit-mixed in accordance with ASTM C-476 and C-94 and shall have an ultimate compressive strength of 2000 PSI in 28 days when tested to UBC Standard 21-18.
- G. Thru-Wall Flashings: 5 oz/sq ft rolled sheet copper bonded to glass fabric. York copper fabric or approved equal.
- H. Lap Sealant: Type as specified in Section 07900.
- I. Preformed Control Joints: Dur-O-Wall wide flange Rapid Control Joint sized for wall thickness or approved equal.
- K. Nailing Strips: Softwood, preservative treated for moisture resistance, dovetail shape, sized to masonry joints.
- M. Vertical Bar Positioners: Dur-O-Wall or approved.
- N. Expansion Joints:
1. CMU: Dur-O-Wall.
  2. Brick: Dur-O-Wall rapid soft joint/expansion joint. D/A 2015, 3/8 inch thick.
- A. Cavity Drainage Protection: Mortar Net mortar guard or approved equal, 1 inch thick, 10 inches high.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: coordination and project conditions.
- A. Verify field conditions are acceptable and are ready to receive work.
- B. Verify items provided by other sections of work are properly sized and located.
- C. Verify built-in items are in proper location, and ready for roughing into masonry work.

#### **3.2 PREPARATION**

- A. Direct and coordinate placement of metal anchors supplied to other sections.
- B. Furnish temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent support.

#### **3.3 INSTALLATION**

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form bed and head joints of uniform thickness.
- C. Coursing of Concrete Masonry Units:
  - 1. Match existing coursing in adjacent work.
- D. Coursing of Brick Units:
  - 1. Bond: Running bond.
  - 2. Coursing: Three units and three mortar joints to equal 8 inches.
  - 3. Mortar Joints: Tooled compacted vee.
- E. Mortar mixing:
  - 1. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270.
  - 2. If water is lost by evaporation, re-temper within two hours of mixing. Do not re-temper mortar after two hours of mixing.
  - 3. Do not use anti-freeze compounds to lower the freezing point of mortar or grout.
- F. Placing and Bonding:
  - 1. Lay hollow masonry units with face shell bedding on head and bed joints.
  - 2. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
  - 3. Remove excess mortar as work progresses.
  - 4. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.
  - 5. Perform job site cutting of masonry units with proper tools to assure straight, clean, un-chipped edges. Prevent broken masonry unit corners or edges.
  - 6. Cut mortar joints flush where resilient base is scheduled.
  - 7. Isolate masonry from vertical structural framing members with movement joint.
  - 8. Isolate top of masonry from horizontal structural framing members and slabs or decks with compressible joint filler.
  - 9. Install only sound masonry units without chips, cracks, or other deformities.



- G. Weeps: Furnish weeps in veneer walls at 32 inches o.c. horizontally above through-wall flashing.
- H. Joint Reinforcement and Anchorage - Masonry Veneer:
  - 1. Install horizontal joint reinforcement 16 inches.
  - 2. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
  - 3. Place joint reinforcement continuous in first and second joint below top of walls.
  - 4. Lap joint reinforcement ends minimum 6 inches.
  - 5. Coordinate following with typical stud spacing.
  - 6. Secure wall ties to stud framed backing and embed into masonry veneer at maximum 16 inches o.c. vertically and 36 inches o.c. horizontally. Place at maximum 3 inches o.c. each way around perimeter of openings, within 12 inches of openings.
- I. Masonry Flashings:
  - 1. Extend flashings horizontally through outer wythe at bottom of walls and turn down on outside face to form drip.
  - 2. Turn flashing up minimum 8 inches and seal to sheathing over framing.
  - 3. Lap end joints minimum 6 inches and seal watertight.
  - 4. Turn flashing, fold, and seal at corners, bends, and interruptions.
  - 5. Install mortar guard continuously at bottom of cavity wall to facilitate drainage.
- J. Lintels:
  - 1. Install loose steel lintels over openings.
  - 2. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled or indicated.
  - 3. Do not splice reinforcing bars.
  - 4. Support and secure reinforcing bars from displacement.
  - 5. Place and consolidate grout fill without displacing reinforcing.
  - 6. Allow masonry lintels to attain specified strength before removing temporary supports.
- K. Grouted Components:
  - 1. Reinforce bond beams as detailed.
  - 2. Lap splices bar diameters required by code.
  - 3. Support and secure reinforcing bars from displacement.
  - 4. Place and consolidate grout fill using mechanical vibrators without displacing reinforcing.
  - 5. At bearing locations, fill masonry cores with grout for minimum 12 inches both sides of opening.
- L. Reinforced Masonry:
  - 1. Lay masonry units with cells vertically aligned and clear of mortar and unobstructed.
  - 2. Place reinforcement bars as indicated on Drawings.
  - 3. Splice reinforcement in accordance with Section 03200.
  - 4. Support and secure reinforcement from displacement.
  - 5. Place and consolidate grout fill without displacing reinforcing.
  - 6. Place grout in accordance with TMS MSJC Specification.
- M. Control Joints:
  - 1. Do not continue horizontal joint reinforcement through control and expansion joints.
  - 2. Install preformed control joint device in continuous lengths. Seal butt and corner joints.

3. Size control joint in accordance with Section 07900 for sealant performance.
  4. Form expansion joint by omitting mortar and cutting unit to form open space.
- N. Built-In Work:
1. As work progresses, install built-in metal door frames, fabricated metal frames, window frames, wood nailing strips, ceramic tile features, anchor bolts, plates, and lintels and other items to be built-in the work and furnished by other sections.
  2. Install built-in items plumb and level.
  3. Bed anchors of metal door frames in adjacent mortar joints. Fill frame voids solid with grout or mortar. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
  4. Do not build in materials subject to deterioration.
- O. Cutting And Fitting:  
Cut and fit for chases, pipes, conduit, sleeves, grounds, and metal fabrications. Coordinate with other sections of work to provide correct size, shape, and location.  
Obtain Architect's approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

### 3.4 ERECTION TOLERANCES

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
- C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft.
- D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative.
- E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft.
- F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
- G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

### 3.5 FIELD QUALITY CONTROL

Section 01400 - Quality Requirements: Testing and Inspection Services. Special inspections required for designated concrete masonry walls.

Brick Units: Test each type in accordance with ASTM C67, 5 random units for each 50,000 units installed.

Concrete Masonry Units: Test each type in accordance with ASTM C140.

### 3.6 CLEANING

Section 01700 - Execution Requirements: Final cleaning.

Remove excess mortar and mortar smears as work progresses.

Replace defective mortar. Match adjacent work.

Clean soiled surfaces with cleaning solution.

Use non-metallic tools in cleaning operations.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes shop fabricated metal items.
- B. Related Sections:
  - 1. Section 09900 - Painting: Field applied paint finish.
  - 2. Section 03300 - Cast-In-Place Concrete: Execution requirements for embedded anchors and attachments for metal fabrications specified by this section in concrete.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
  - 2. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
  - 3. ASTM A153/A153M Standard Specifications for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - 4. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
  - 5. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
  - 6. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
  - 7. ASTM A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- B. American Welding Society:
  - 1. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
  - 2. AWS D1.1 - Structural Welding Code - Steel.
- C. SSPC: The Society for Protective Coatings:
  - 1. SSPC - Steel Structures Painting Manual.
  - 2. SSPC SP 1 - Solvent Cleaning.
  - 3. SSPC SP 10 - Near-White Blast Cleaning.
  - 4. SSPC SP Paint 15 - Steel Joist Shop Paint.
  - 5. SSPC Paint 20 - Zinc-Rich Primers (Type I - Inorganic and Type II - Organic).
- D. AISC - American Institute of Steel Construction:
  - 1. Specifications for Structural Steel Buildings, Code of Standard Practice.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal requirements.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.
- C. Welder Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.

### **1.4 QUALIFICATIONS**

- A. Fabricator: Company specializing in performing work of this section with a minimum of 5 years documented experience.

- B. Welders: Shall be currently AWS certified.

**1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Accept metal fabrications on site in labeled shipments. Inspect for damage.
- C. Protect metal fabrications from damage by exposure to weather.

**1.6 FIELD MEASUREMENTS**

- A. Verify field measurements are as indicated on shop drawings.

**PART 2 PRODUCTS**

**2.1 MATERIALS - STEEL**

- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A500, Grade B. Seamless.
- C. Plates: ASTM A36/A36M.
- D. Pipe: ASTM A53, Grade B, Schedule 40.
- E. Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A153/A153M for galvanized components.
- F. Welding Materials: AWS D1.1; type required for materials being welded.
- G. Shop and Touch-Up Primer: SSPC Paint 15, Type 1, red oxide.

**2.2 COMPONENTS**

- A. Following is list of principal items only. Refer to Drawings for items not specifically scheduled.
- B. COUNTER SUPPORTS: Steel tubing, sizes as shown, all welded design. Countersink fasteners flush. Shop prime.
- C. MISCELLANEOUS ANGELS, LINTELS, SUPPORTS, HANGARS, SLEEVES, INSERTS, ANCHORS, AND CONNECTIONS: Sizes and shapes as detailed or noted.

**2.3 FABRICATION**

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by intermittent welds and plastic filler. Continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of the same material and finish as fabrication, except where specifically noted otherwise.

**2.4 FACTORY APPLIED FINISHES - STEEL**

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime paint items with one coat except where galvanizing or powder coating is specified.

**2.5 FABRICATION TOLERANCES**

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation from Plane: 1/16 inch in 48 inches.

**PART 3 EXECUTION**

**3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify field conditions are acceptable and are ready to receive Work.

**3.2 PREPARATION**

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply steel items required to be cast into concrete or embedded in masonry with setting templates to appropriate sections.

**3.3 INSTALLATION**

- A. Install items plumb and level, accurately fitted, free from deterioration or defects.
- B. Make provisions for erection stresses. Install temporary bracing to maintain alignment, until permanent bracing and attachments are installed.
- C. Field weld components indicated in Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. Obtain approval of Architect prior to site cutting or making adjustments not scheduled.
- F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

**3.4 ERECTION TOLERANCES**

- A. Section 01400 - Quality Requirements: Tolerances
- B. Maximum Variation From Plumb: 1/4 inch for every 12 feet in height.
- C. Maximum Offset from Alignment: 1/4 inch.
- D. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes structural floor, wall, and roof framing; built-up structural beams and columns; wall and roof sheathing; sill gaskets; preservative treatment of wood; fire retardant treatment of wood; miscellaneous framing and sheathing; and concealed wood blocking for support of toilet and bath accessories, wall cabinets, wood trim, and miscellaneous specialties.
- B. Section includes infiltration barrier and rough hardware.
- C. Related Sections:
  - 1. Section 03100 - Concrete Formwork: Form lumber.
  - 2. Section 03200 - Concrete Reinforcement.
  - 3. Section 05500 - Metal Fabrications: Placement of steel fabrications bearing upon and anchored into concrete and masonry.
  - 5. Section 09900 - Painting: Priming.
  - 6. Division 10 - Specialties: Specialties backing requirements.

### **1.2 REFERENCES**

- A. American National Standards Institute:
  - 1. ANSI A 135.4 - Basic Hardboard.
  - 2. ANSI A208.1 - Mat-Formed Wood Particle Board.
- B. American Wood-Preservers' Association:
  - 1. AWPA C1 - All Timber Products - Preservative Treatment by Pressure Process.
  - 2. AWPA C20 - Structural Lumber - Fire-Retardant Treatment by Pressure Processes.
- C. National Institute of Standards and Technology:
  - 1. NIST PS 20 - American Softwood Lumber Standard.
- D. Western Wood Products Association:
  - 1. WWPA G-5 - Western Lumber Grading Rules.
- E. NFPA - National Forest Products Association: National Design Specification for Wood Construction.
- F. APA - American Plywood Association Grading Rules.

### **1.3 QUALITY ASSURANCE**

- A. Perform Work in accordance with the following:
  - 1. Lumber Grading Agency: Certified by NIST PS 20.
  - 2. Wood Structural Panel Grading Agency: APA.
  - 3. Comply with requirements of the Uniform Building Code, Oregon revised latest edition.

### **1.4 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.

## **PART 2 PRODUCTS**

### **2.1 LUMBER MATERIALS**

- A. Grading Rules: WWPA, unless otherwise noted.
- B. All structural wood members shall be Coast Region Douglas Fir No. 2 or Better Grade fb as noted in National Design Specifications for Stress Grade Lumber and its fastenings, unless noted otherwise. 19% Maximum moisture content for lumber 2 inches or less

nominal thickness.

- C. Sills, roof curbs, cants, crickets and lumber in contact with earth, masonry or concrete: No. 2 and better, Douglas Fir, S4S pressure treated.

## **2.2 SHEET MATERIALS**

- A. Grade Rules: American Plywood Association (APA).
- B. Roof Sheathing: APA Span-Rated Sheathing, Exposure 1, Grade C-D, exterior glue, square edges, unsanded. See structural drawings for span ratings and thicknesses.
- C. Wall Sheathing and Miscellaneous Plywood: APA Rated Sheathing, Exposure 1, Grade C-D, exterior glue, square edges, 15/32 inch thick, unless noted otherwise. Provide 3/4 inch thick plywood phone board.
- D. Medium Density Fiberboard: Weyerhaeuser Fiberwood or equal, thickness noted.

## **2.3 INFILTRATION BARRIER**

- A. Dupont "Tyvek" exterior air infiltration barrier.

## **2.4 BUILDING PAPER**

- A. 15 pound asphalt impregnated building paper.

## **2.5 ROUGH HARDWARE AND ACCESSORIES**

- A. General: Hot-dipped galvanized steel for exterior, high humidity and treated wood locations; plain finish elsewhere; size and type to suit conditions. Simpson "Strong-Tie" or approved. All butted wood members shall be attached with steel connectors.
- B. Nails and Bolts: Size and spacing in accordance with IBC and Reference Standards. Washers shall be used under all bolt heads and nuts bearing on wood. Fasten wood panel shear walls in accordance with drawings.
- C. Drywall Screws: Bugle head, hardened steel, power driven type, length to achieve full penetration of sheathing substrate.
- D. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel. J bolt/ Epoxy bolt approved.
- E. Screening: Galvanized 20 ga. mesh, openings not to exceed 1/16 inch.
- F. Adhesive: Franklin Titebond II or approved. APA specifications AFG-1.

## **2.6 SILL GASKET**

- A. 1/4 inch thick plate-width polyethylene foam strip from continuous rolls.

## **2.7 WOOD PRESERVATIVE**

- A. Wood Preservative (Pressure Treatment): AWWA Treatment C1 using water borne preservative with 0.25 percent retainage.
- B. Wood Preservative (Surface Application): Colored, 5% pentachlorophenol type.

## **PART 3 EXECUTION**

### **3.1 FRAMING**

- A. Set structural members level and plumb, in correct position.
- B. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in alignment until completion of erection and installation of permanent bracing.
- C. Place horizontal members, crown side up.

- D. Stud spacing 16" o.c. unless otherwise noted.
- E. Construct load bearing framing members full length without splices.
- F. Double members at openings over 16 inches wide. Space short studs over and under opening to stud spacing.
- G. Construct double joist headers at floor and ceiling openings and under wall stud partitions parallel to floor joists. Frame rigidly into joists.
- H. Bridge framing in excess of 8 feet span at mid-span. Fit solid blocking at ends of members.
- I. Place full width continuous sill flashings under framed walls on cementitious foundations. Lap flashing joint 4 inches.
- J. Place sill gasket directly on cementitious foundation. Puncture gasket clean and fit tight to protruding foundation anchor bolts.
- K. Coordinate installation of glue laminated structural units, prefabricated wood trusses and wood "I" joists.
- L. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.
- M. Coordinate curb installation with installation of decking and support of deck openings.
- N. Cap plates doubled with lapped intersections staggered minimum of 48 inches. Overlap at corners and run to provide continuous tie.
- O. Reinforce framing members as directed where passage through framing members is permitted.
- P. Provide blocking between members at all supports and at edges of openings for sheathing and finishes support.
- Q. Provide fire stops and blocking in walls for nailing of sheathing. Maximum spacing 10'-0" o.c. and at floor planes for walls clad both sides.
- R. Provide solid blocking in stud walls for anchorage of wall-hung items, including, but not limited to casework, hardware, toilet accessories, Owner-furnished items noted, specialties, door stops, and mechanical and electrical items.
- S. Stud Height: Unless supported laterally, the maximum height of studs follows for non-bearing walls only:

<u>Size</u>	<u>Height (Max.)</u>
2x4	14'-0" Interior, 8'-0" Exterior
2x6	20'-0" Interior, 14'-0" Exterior
- T. Wood suspended gypsum board ceilings to be minimum 2"x6" joists 24 inches o.c. supported by 2x4 hangars 6'-0" o.c. maximum and continuous ledger at walls.
- U. Install telephone and electrical panel back boards with plywood sheathing material where required. Size back boards 12 inches beyond size of electrical panels.

### 3.2 SHEATHING

- A. Secure roof sheathing perpendicular to framing members with ends staggered. Secure sheet edges over firm bearing. Provide solid edge blocking. Sheathing clips where noted.
- B. Place air-infiltration barrier over wall sheathing; weather lap joints.
- C. Install roof plywood in two span continuous pattern; half lap wall and roof sheathing. Install with end and side spaces recommended by APA.
- D. Note plywood shear walls. Nail in accordance with schedule on Drawings and IBC requirements. Do not overdrive nails. Panels with overdriven nails shall be removed and re-nailed.
- E. Install floor, seating and stair plywood with gun grade adhesive and ring-shank nails or screws.



**3.3 TOLERANCES**

- A. Framing Members: 1/4 inch maximum from true position.
- B. Surface Flatness of Floor: 1/4 inch in 10 feet maximum.

**3.4 AIR INFILTRATION BARRIERS**

- A. General:
  - Install barriers with minimum 4 inch laps, securely stapled.
  - Install barriers shingle lapped, to shed water unless noted as single sheet.
  - Fit tight around all penetrations and tape.
  - Patch all tears as directed. Repair punctures with duct tape.
- B. Air Infiltration Barrier:
  - 1. Install over sheathing at all exterior wood framed walls, stapled.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes custom-fabricated cabinet units; counter tops; decorative screen panels; cabinet hardware; preparation for installing utilities in cabinets; and shop site finishing.
- B. Related Sections:
  - 1. Section 06100 - Rough Carpentry.
  - 2. Section 09900 - Paints and Coatings: Site finishing of cabinet.

### **1.2 REFERENCES**

- A. American National Standards Institute:
  - 1. ANSI A156.9 - Cabinet Hardware.
  - 2. ANSI A208.1 - Mat-Formed Wood Particle Board.
- B. Federal Specification Unit:
  - 1. FS A-A-1936 - Adhesive, Contact, Neoprene Rubber.
- C. National Electrical Manufacturers Association:
  - 1. NEMA LD 3 - High Pressure Decorative Laminates.
- D. Product Standards:
  - 1. PSI Construction and Industrial Plywood
  - 2. PS 20 American Softwood Lumber Standard
  - 3. PS 58 Basic Hardwood
- E. Woodwork Institute of California:
  - 1. WIC - Manual of Millwork.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.
- C. Product Data: Submit data for hardware accessories and epoxy resin products.

### **1.1 QUALITY ASSURANCE**

- A. Perform work in accordance with WIC (Woodwork Institute of California) Manual of Millwork, Custom Grade, except for exposed wood portions of casework which shall be Premium Grade.

### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Protect units from moisture damage.

### **1.6 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Product Requirements.
- B. During and after installation of Work of this section, maintain same temperature and humidity conditions in building spaces as will occur after occupancy.

### **1.7 FIELD MEASUREMENTS**

- A. Verify field measurements prior to fabrication.

## **PART 2 PRODUCTS**

### **2.1 CUSTOM CABINETS**

- A. Fabricators:
  - 1. New Horizons, Inc.
  - 2. Jackson Creek Millwork
  - 3. Cascade Cabinets
  - 4. Substitutions: Section 01600 - Product Requirements.

### **2.2 COMPONENTS**

- A. Hardwood Lumber: WIC Premium Grade; maximum moisture content of 6-8 percent.
  - 1. Painted Wood: Plain sawn poplar.
  - 2. Stained Wood: Plain sawn select white maple.
- B. Wood Particleboard: ANSI A208.1 Type 1 2; composed of wood chips or sawdust, 45 lb. density, made with water resistant adhesive; sanded faces.
- C. Melamine Coated Particleboard: Georgia Pacific, Roseburg or Pickering melamine coated particleboard panels. Color as selected from full range of standard and custom colors.
- D. High Pressure Decorative Laminate for all exposed portions of cabinets, unless otherwise noted: NEMA LD 3, GP50 for horizontal surfaces, GP28 for vertical surfaces, CL20 for cabinet liner surfaces, BK20 for undecorated backing sheets, PF42 for post forming, through color pattern and matte surface texture as selected. Manufacturer and colors as indicated on drawings.

### **2.3 ACCESSORIES**

- A. Adhesive for High Pressure Decorative Laminates: FS A-A-1936 contact adhesive.
- B. Fasteners: Size and type to suit application.
- C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; steel finish in concealed locations and stainless steel finish in exposed locations.

### **2.4 HARDWARE**

- A. Hardware Finish (unless otherwise noted): 626 Dull Chrome.
- B. Shelf Supports: Knappe and Vogt 346 NP, four per shelf, spaced at 1-1/4 inches o.c.
- C. Drawer and Door Pulls: Baldwin 4676 wire pull, steel. Two required for drawers over 18 inches wide; one per door leaf.
- D. Cabinet Locks: National lock C-8105 pin tumbler, finish to match cabinet hardware. Keyed cylinder, two keys for each lock, master keyed.
- E. Catches: Touch type.
- F. Drawer Slides:
  - 1. Drawers 10 inches high and less - Blum 230 E 3/4 extension, 100 lb. rated.
  - 2. Drawers over 10 inches high - Blum 430 full extension, 100 lb. rated.
- G. Hinges: Blum 95M 5580, 125 with 195H7190 meeting plate for reveal overlay design.
- H. Rubber Bumpers: Provide for all drawers.
- I. File Drawer Accessories: Pendaflex letter size hanging file system for each drawer noted "File."
- J. Closet Poles: Knappe and Vogt 660 with 734/735 brackets.
- K. Computer Cabinet Hardware: Accuride Flipper Door Slides, Model 1332.
- L. Pivot Door Slides: Knappe and VOGT 8085 3/4 extension pivot door slide for 3/4 inch doors.

## 2.5 FABRICATION

- A. Fabricate casework in accordance with WIC Custom Grade for all work except wood portions which shall be fabricated in accordance with WIC Premium Grade; WIC Flush Overlay Design, unless noted or detailed otherwise. WIC design classification numbers are used on drawings to describe cabinet types, unless otherwise noted.
- B. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
- C. Fit shelves, doors, and exposed edges with PVC flush edging. Use one piece for full length only.
- D. Cap exposed high pressure decorative laminate finish edges with material of same finish and pattern.
- E. Door and Drawer Fronts: 3/4 inch thick; flush overlay.
- F. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.
- G. Apply high pressure decorative laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Locate counter butt joints minimum 2 feet from sink cut-outs.
- H. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
- I. Provide tight radius coved backsplash. Self-edge backsplash top. Nosings per drawings.
- J. Recess toe space at all exposed faces of cabinet, including knee spaces.
- K. Fabricate cabinets and counter tops with cutouts for plumbing fixtures, inserts, appliances, outlet boxes, fixtures and fittings, and specialties. Verify locations of cutouts from on-site dimensions. Seal cut edges.
- L. Provide shelf bracket holes at 1-1/4 inches o.c.
- M. Cabinet sides and dividers shall be 3/4 inch thick.
- N. Cabinet backs at all locations shall be 1/4 inch thick melamine faced particle board.
- O. Shelves shall be 3/4 inch thick under 30 inches in length; 1 inch thick 30 inches long and over. PVC edge one long side.
- P. Semi-Exposed Cabinet and Drawer Interiors:
  - 1. General: Melamine.
  - 2. Door and Drawer Backs: Cabinet liner.
  - 3. Shelves: Melamine.
  - 4. Removable Dividers: Melamine.
- Q. Fully exposed interiors shall be laminated plastic.
- R. Provide completely closed top for all wall cabinets and scribe spaces. Cut out cabinet dividers at under cabinet light recess.

## 2.6 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler matching surrounding surfaces and of types recommended for applied finishes.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify adequacy of backing and support framing.

- C. Verify location and sizes of utility rough-in associated with work of this section.

**3.2 INSTALLATION**

- A. Set and secure casework in place; rigid, plumb, and level.
- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- E. Secure cabinet and counter bases to floor using appropriate angles and anchorages.
- F. Secure back splashes to walls with adhesive. Fill joint between wall and backsplash and wall and cabinet with joint sealant, color to match adjacent plastic.
- G. Provide two equally spaced cadmium-plated oval head Phillips screw fasteners with finish washers in each cabinet section, aligned horizontally.
- H. Provide wire management grommets at locations of under counter electrical, computer and telephone outlets, located as directed. Match grommets to countertop.
- I. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
- J. Site glaze glass materials using Interior method specified in Section 08800.

**3.3 ADJUSTING**

- A. Section 01700 - Execution Requirements: Testing, adjusting and balancing.
- B. Adjust moving or operating parts to function smoothly and correctly.

**3.4 CLEANING**

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Thermal Batt Insulation
  - 2. Sound Batt Insulation
  - 3. Vapor Barrier
  - 4. Insulation Schedule
- B. Related Sections:
  - 1. Section 06100 - Rough Carpentry: Air Infiltration barrier.

**1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
  - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. National Fire Protection Association:
  - 1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- C. Underwriters Laboratories Inc.:
  - 1. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

**1.3 SYSTEM DESCRIPTION**

- A. Materials of This Section: Provide continuity of thermal barrier at building enclosure elements in conjunction with thermal insulating materials in other Sections.
- B. Provide noise barrier insulation where shown on drawings.

**1.4 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on product characteristics, performance criteria, limitations, and manufactures installation instructions.

**1.5 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.

**PART 2 PRODUCTS****2.1 BATT INSULATION**

- A. Manufacturers:
  - 1. CertainTeed Insulation.
  - 2. Johns Manville.
  - 3. Owens Corning.
  - 4. Substitutions: Section 01600 - Product Requirements.

**2.2 COMPONENTS**

- A. Batt Insulation:
  - 1. Preformed glass fiber batt type with foil reflective membrane for ceilings, unfaced or split paper for walls, friction fit, meeting requirements of ASTM C665.

2. Low flame spread glass fiber batt insulation with flame spread of 25 or less meeting requirements of ASTM C665.
  3. Sound attenuation batt insulation where indicated or noted on drawings as “noise barrier batts”, shall be unfaced glass fiber, friction fit batts.
  4. Vinyl-Faced Insulation: Owens Corning MBI vinyl facing fiberglass insulation.
  5. All batt insulation shall meet flame/smoke properties requirements of ASTM E84 unless otherwise noted.
- B. Sheet Vapor Retarder: Clear polyethylene film for above grade application, 6 mil thick.
  - C. Staples: Steel wire; galvanized; type and size to suit application.
  - D. Tape: Bright aluminum self-adhering type, mesh reinforced, 2 inch wide.
  - E. Insulation Fasteners: Steel impale spindle and clip on flat metal base, self adhering backing, length to suit insulation thickness, capable of securely and rigidly fastening insulation in place.
  - F. Wire Mesh: Galvanized steel, hexagonal wire mesh.
  - G. Hangar Wire: 18 gauge galvanized steel.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate, adjacent materials, and insulation are dry and ready to receive insulation.
- C. Verify mechanical and electrical work within ceiling areas has been installed.

#### **3.2 INSTALLATION**

- A. Install in ceiling spaces without gaps or voids. Do not compress insulation.
- B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- C. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within plane of insulation.
- D. Install with factory applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane over framing members.

#### **3.3 SCHEDULES**

- A. Thermal Batt Insulation:
  1. Ceilings: R-38 Foil-faced.
- B. Sound Attenuation Insulation:
  1. Walls and ceilings noted “noise barrier batt” or shown with sound insulation symbol: 3 inch thick, unfaced.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Asphalt shingles.
  - 2. Underlayment.
  - 3. Valley protection.
  - 4. Ridge, [eave,] [and] [roof] vents.
  - 5. Metal flashings and accessories.
  
- B. Related Sections:
  - 1. Section 07714 - Gutters and Downspouts.
  - 2. Division 15 - Mechanical: Mechanical work projecting through roof.

### **1.2 REFERENCES**

- A. ASTM International:
  - 1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 2. ASTM A755/A755M - Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
  - 3. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
  - 4. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
  - 5. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction.
  - 6. ASTM D225 - Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules.
  - 7. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
  - 8. ASTM D228 - Standard Test Method for Asphalt Roll Roofing, Cap Sheets, and Shingles.
  - 9. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
  - 10. ASTM D2178 - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
  - 11. ASTM D3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.



12. ASTM D3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
  13. ASTM D3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
  14. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
  15. ASTM D4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
  16. ASTM D6380 - Standard Specification for Asphalt Roll Roofing (Organic Felt).
  17. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.
  18. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.
- B. National Roofing Contractors Association:
1. NRCA - The NRCA Steep Roofing Manual.
- C. Sheet Metal and Air Conditioning Contractors:
1. SMACNA - Architectural Sheet Metal Manual.
- D. Underwriters Laboratories Inc.:
1. UL 580 - Tests for Uplift Resistance of Roof Assemblies.
  2. UL 790 - Tests for Fire Resistance of Roof Covering Materials.
  3. UL 997 - Wind Resistance of Prepared Roof Covering Materials.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data indicating material characteristics, performance criteria, and limitations.
- C. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern; for color and texture selection.
- D. Manufacturer's Installation Instructions: Submit installation criteria and procedures.
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- F. Inspection Report: Submit report of roof inspection verifying shingles are sealed. Indicate extent of areas that did not properly self-seal and what corrective measures were required.

### **1.4 QUALITY ASSURANCE**

- A. Roof Covering Fire Classification: Minimum Class C when tested in accordance with ASTM E108 or UL 790.

- B. Apply label from agency approved by authority having jurisdiction to identify each roof assembly component.

### **1.5 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Product Requirements.
- B. Do not install shingles when temperatures are below 45 degrees F (7 degrees C).

### **1.6 WARRANTY**

- A. Section 01700 - Execution Requirements: Product warranties and product bonds.
- B. Furnish (40) year manufacturer warranty for asphalt shingles. (2) year installation warranty.

### **1.7 EXTRA MATERIALS**

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
- B. Supply (1) bundle of extra shingles of each color selected.

## **PART 2 PRODUCTS**

### **2.1 ASPHALT SHINGLES**

- A. Manufacturers:
  - 1. GAF Building Materials Corporation. Model Timberline.
  - 2. Substitutions: [Section 01600 - Product Requirements.

### **2.2 COMPONENTS**

- A. Underlayment: Certaineed 'DiamondDeck', high performance synthetic roofing underlayment, meeting ASTM D226 and D4869 requirements; provide 30 year warranty. Apply (2) layers in shingle fashion per manufacturer requirements.

### **2.3 RIDGE, HIP, AND EAVE VENTS**

- A. Ridge and Hip Vents: Plastic, nominal 12 inches (300 mm) wide [with vent openings that do not permit direct water or weather entry]; to receive cap shingles; minimum 12 sq inches/foot (25 sq mm/mm) net free area.

- B. Eave Vents: Plastic, nominal 1-1/2 inches (38 mm) wide by 1 inch (25 mm) high, [with vent openings that do not permit direct water or weather entry]; minimum 9 sq inches/foot (19 sq mm/mm) net free area.
- C. Starter and End Caps: As required to suit application.

#### **2.4 ACCESSORIES**

- A. Nails: ASTM F1667; standard round wire roofing nails hot dipped galvanized steel type, minimum 0.105 inch diameter shank, minimum 0.375 inch diameter head; of sufficient length to penetrate [through roof sheathing.] [3/4 inch into roof sheathing.]
- B. Bituminous Paint: Acid and alkali resistant type; black color.

#### **2.5 FABRICATION**

- A. Form flashings to protect roofing materials from physical damage and shed water.
- B. Form eave edge [and gable edge] flashing to extend minimum 2 inches onto roof and minimum 0.25 inches below sheathing.
- C. Form flashing sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
- D. Hem exposed edges of flashings minimum 1/4 inch on underside.
- E. Apply bituminous paint on concealed surfaces of flashings.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify roof penetrations and plumbing stacks are in place and flashed to deck surface.
- C. Verify roof openings are correctly framed.
- D. Verify deck surfaces are dry, free of ridges, warps, or voids.

#### **3.2 PREPARATION**

- A. Fill knot holes and surface cracks with latex filler at areas of bonded ice dam membrane.

- B. Broom clean deck surfaces under ice dam membrane and underlayment.

### **3.3 INSTALLATION**

- A. Underlayment Installation:
  - 1. Place one ply of underlayment over substrate with ends and edges weather lapped 2 inches. Stagger end laps of each consecutive layer. Fasten underlayment in place per manufacturer's recommendations.
  - 2. Place 19 inch wide ply of underlayment over substrate not covered by ice dam membrane, with ends lapped minimum 2 inches. Weather lap ice dam membrane minimum 2 inches. Nail underlayment in place.
  - 3. Place second ply of underlayment over first layer, lapping first layer 19 inches. Lap ends minimum 2 inches. Stagger end laps of each consecutive layer. Nail underlayment in place.
  
- B. Metal Flashing and Accessories Installation:
  - 1. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.
  - 2. Secure in place with nails. Conceal fastenings.
  - 3. Flash and seal work weather tight, projecting through or mounted on roofing with plastic cement.
  
- C. Asphalt Shingles Installation:
  - 1. Place shingles in straight coursing pattern weather exposure to produce double thickness over full roof area. Install double course of shingles at eaves.
  - 2. Project first course of shingles 3/4 inch (19 mm) beyond fascia boards.
  - 3. Extend shingles 1/2 inch (13 mm) beyond face of gable edge fascia boards.
  - 4. After installation, place two daubs of plastic cement, one inch (25 mm) diameter under each individual shingle tab exposed to weather, to prevent lifting.
  - 5. Install ridge vents centered over ridge. Coordinate required ridge opening with Section 06100 for required free area vent to attic space.
  - 6. Cap hips and ridges with individual shingles, maintaining 5 inch (125 mm) weather exposure. Place to avoid exposed nails.
  - 7. Install roof vents in accordance with manufacturer's instructions.
  - 8. Coordinate installation of roof mounted components or items projecting through roof with weather tight placement of Counterflashings.
  - 9. Complete installation to provide weather tight service.

### **3.4 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Section 01700 - Execution Requirements: Protecting installed construction.
  
- B. Do not permit traffic over finished roof surface.

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
  - 1. Preparation of sealant substrates.
  - 2. Sealants, backing and accessories.

**1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM C834 - Standard Specification for Latex Sealants.
  - 2. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
  - 3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
  - 4. ASTM C1193 - Standard Guide for Use of Joint Sealants.
  - 5. ASTM D1056 - Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.

**1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Products Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.
- C. Samples: Submit two samples, illustrating sealant colors for selection.
- D. Manufacturer's Installation Instructions: Submit special procedures, surface preparation, and perimeter conditions requiring special attention.
- E. Warranty: Include coverage for installed sealants and accessories failing to achieve watertight seal, exhibit loss of adhesion or cohesion, and sealants which do not cure.

**1.4 QUALITY ASSURANCE**

- A. Maintain one copy of each referenced document covering installation requirements on site.

**1.5 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing Work of this section with minimum three years documented experience, and approved by manufacturer.

**1.6 MOCKUP**

- A. Section 01400 - Quality Requirements: Requirements for mockup.
- B. Prior to installation of Joint Sealers, provide mockup to demonstrate adhesion, joint design and finish appearance. Install 5 lineal feet of each type of sealant for Architect's approval.
- C. Construct mockup with specified sealant types and with other components noted.
  - 1. Determine preparation and priming requirements based on manufacturers recommendations; take action necessary for correction of failure of sealant tests on mock-up.
  - 2. Verify sealants, primers, and other components do not stain adjacent materials.
- D. Locate where directed by Architect.
- E. Incorporate accepted mockup as part of Work.

**1.7 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Products Requirements.

- B. Maintain temperature and humidity recommended by sealant manufacturer during and after installation.

### 1.8 COORDINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with sections referencing this section.

## PART 2 PRODUCTS

### 2.2 JOINT SEALERS

- A. Manufacturers:
  - 1. Unless otherwise noted, Pecora Corporation products are listed. Equal products of Dow Corning Corporation and SIKA Corporation are approved.
  - 2. Substitutions: Section 01600 - Product Requirements.
- B. Products Description:
  - 1. **S-1** High Performance General Purpose Exterior (Nontraffic) Sealant Polyurethane; ASTM C920, Grade NS, Class 25; single component.
    - a. Dynatrol 1-XL
    - b. Color: Standard colors matching finished surfaces Colors as selected.
    - c. Applications: Use for:
      - 1) Control, expansion, and soft joints in masonry.
      - 2) Joints between concrete and other materials.
      - 3) Joints between metal frames and other materials.
      - 4) Joints between impervious materials.
      - 5) Perimeters of window frames, door frames, louvers and other openings where metal, wood or other materials abut masonry or concrete.
      - 6) Other exterior non-traffic joints for which no other sealant is indicated.
  - 2. **S-2** General Purpose Traffic Bearing Sealant: Polyurethane; ASTM C920, Grade P, Class 25, multi-component.
    - a. Urexpan NR-201.
    - b. Color: Standard colors matching finished surfaces Colors as selected.
    - c. Applications: Use for exterior and interior pedestrian and vehicular traffic bearing joints.
  - 3. **S-3** Exterior Metal Lap Joint Sealant: Polyurethane ASTM C920, multi-component, non-drying, non-skinning, non-curing.
    - a. DynaTrol II.
    - b. Applications: Use for concealed sealant bead in sheet metal.
  - 4. **S-4** General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable.
    - a. AC -20 + Silicone.
    - b. Color: Colors as selected.
    - c. Applications: Use for interior wall and ceiling control joints, joints between door and window frames and wall surfaces, and other interior joints for which no other type of sealant is indicated.:
  - 5. **S-5** Fixture Sealant: White silicone; ASTM C920, Uses M and A; single component, mildew resistant.
    - a. 898 Silicone.
    - b. Applications: Use for joints between plumbing fixtures and floor and wall surfaces, and joints between counter tops and wall surfaces.

6. **S-6 Acoustical Sealant:** Butyl or acrylic sealant; ASTM C920, Grade NS, Class 12-1/2, Uses M and A; single component, solvent release curing, non-skinning.
  - a. Sheetrock Acoustical Sealant manufactured by United States Gypsum Company.
  - b. Applications: Use for concealed locations only.
    - 1) Provide sealant bead between top stud runner and structure and between bottom stud track and floor; perimeter of gypsum board panels and abutting surfaces.
7. **S-7 Foam Seal:** Permanently elastic, high density, open-cell polyurethane foam seal, black. Emseal Joint Systems or approved. Thickness 50 percent wider than joint opening.

## 2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber, oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify substrate surfaces and joint openings are ready to receive work.
- C. Verify joint backing and release tapes are compatible with sealant.

### 3.2 PREPARATION

- A. Remove loose materials and foreign matter impairing adhesion of sealant.
- B. Clean and prime joints.
- C. Perform preparation in accordance with ASTM C1193.
- D. Protect elements surrounding Work of this section from damage or disfiguration.

### 3.3 INSTALLATION

- A. Perform installation in accordance with ASTM C1193.
- B. Perform acoustical sealant application work in accordance with ASTM C919.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave. Channel shaped. As detailed.

### 3.4 CLEANING

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Clean adjacent soiled surfaces.

SECTION 07900

JOINT SEALERS

PAGE 4

**3.5 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Section 01700 - Execution Requirements: Protecting installed construction.
- B. Protect sealants until cured.

END OF SECTION



## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes non-rated, fire rated and thermally insulated steel doors, frames and relites.
- B. Related Sections:
  - 1. Section 08212 - Wood Doors.
  - 2. Section 08710 - Door Hardware.
  - 3. Section 09900 - Paints and Coatings: Field painting of doors and frames.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM A591/A591M - Standard Specification for Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Mass Applications.
  - 2. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 3. ASTM E413 - Standard Classification for Rating Sound Insulation.
- B. SDI - Steel Door Institute.
- C. National Fire Protection Association:
  - 1. NFPA 80 - Standard for Fire Doors, Fire Windows.
  - 2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
- D. Underwriters Laboratories Inc.:
  - 1. UL 10B - Fire Tests of Door Assemblies.
- E. International Building Code
  - 1. UBC Standard 7-2 - Fire Tests of Door Assemblies.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate door and frame elevations, reinforcement, anchor types and spacing, closure method, and cut-outs for hardware glazing, louvers, and finishes.
- C. Product Data: Submit door configurations, location of cut-outs for hardware reinforcement.
- D. Manufacturer's Installation Instructions: Submit special installation instructions.
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

### **1.4 QUALITY ASSURANCE**

- A. Conform to requirements of SDI for all work of this Section except where exceeded by this specification.
- B. Fire Rated Door and Frame Construction: Conform to UBC Standard 7-2.
- C. Installed Door and Frame Assembly: Conform to NFPA 80 for fire rated class as scheduled.
- D. It is the intent of this specification to provide a general guideline for quality, function, and design of the Steel Doors and Frames. It is specific responsibility of Steel Doors and Frames Supplier to furnish products which are fully functional, in full compliance with State and Local Building Codes, Fire Codes, and Handicap Codes. Any supplier bidding on this section of work will notify the Architect prior to bidding of discrepancies or will be assumed to have included correct material to make this compliance.
- E. It shall be the Contractor's sole responsibility to measure each existing or new rough opening and overall wall thickness, including existing and proposed wall finishes, prior to fabrication of doors and frames.

**1.5 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

**1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Accept doors and frames on site in manufacturer's packaging. Inspect for damage.
- C. Break seal on site to permit ventilation.

**1.7 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with door opening construction, door frame and door hardware installation.

**1.8 WARRANTY**

- A. Provide five (5) year manufacturers warranty under provisions of Section 01700.
- B. Doors shall be guaranteed in writing to be of good material and workmanship and to be free from defects at the time of installation.

**PART 2 PRODUCTS**

**2.1 STEEL DOOR, FRAMES AND RELITES**

- A. Manufacturers:
  - 1. Ceco Door Products.
  - 2. Steelcraft.
  - 3. Curries.
  - 4. Substitutions: Section 01600 - Product Requirement.

**2.2 MATERIALS**

- A. Standard steel doors, frames and frame components shall be manufactured from cold-rolled steel conforming to ASTM A 366. All doors, exterior frames and frames in masonry walls shall be hot dipped galvanized steel having an A90 zinc coating conforming to ASTM A924. Galvanized steel shall be treated to insure proper paint adhesion. All component parts used in galvanized doors or frames shall meet the galvanizing specification.

**2.3 DOORS**

- A. Doors shall be full-flush or full-flush seamless construction - 16 gauge steel.
- B. Doors shall be reinforced, stiffened, sound deadened and insulated with glob phenolic resin impregnated Kraft honeycomb core completely filling the inside of the doors and laminated to inside faces of both panels using contact adhesive applied to both panels and honeycomb core.
- C. Door shall have continuous vertical mechanical interlocking joints at lock and hinge edges with visible edge seams or with edge seam filled and ground smooth. The internal portion of the seam shall be sealed with epoxy. An intermittent fastening along the seam is not permitted.
- D. Doors shall have beveled 1/8" in 2" hinge and lock edges. Square edge doors and doors with loose hinge fillers will not be accepted.

- E. Top and bottom steel reinforcement channels shall be 14-gauge and spot welded to both panels.
- F. Hinge reinforcements shall be 8-gauge for 1-3/4" doors. Lock reinforcements shall be 16-gauge and closer reinforcements 14-gauge box minimum 20" long. Hinge and lock reinforcements shall be projection welded to the edge of the door. Galvanized doors shall have galvanized hardware reinforcements. Adequate reinforcements shall be provided for other hardware as required. All doors shall have a high frequency hinge reinforcement at the top hinge.
- G. All exterior swing-out doors shall have the tops closed to eliminate moisture penetration. Door tops shall have no holes or openings. Top caps are permitted.
- H. Stile and Rail Doors: Stile and rail doors shall be tubular stile and rail construction. 1-3/4" thick and fabricated from 16-gauge cold rolled galvanized steel. Stiles shall extend the full height of the door. Rails shall be mechanically joined to the stiles forming a neat seam on the face.
- I. Minimum Performance Requirements:
  - 1. U Factor: Minimum .41.
  - 2. STC Factor: Minimum 34.
  - 3. Shear: Minimum 1100 LB per square foot.
  - 4. Swing Test: ANSI A151.1 Level "A" 2,000,000 cycle test with twist test.
  - 5. Corrosion: Pass ANSI A224.1 200 hr salt spray test.
  - 6. Compression: Minimum 5000 LB per square foot.

## 2.4 FRAMES

- A. Standard steel flush frames shall be formed from 14 gauge cold-rolled steel, ASTM 924 galvanized frames.
- B. Stainless steel frames shall be formed from 16 gauge type 316 stainless steel.
- C. Frames shall have 2" faces unless otherwise noted. Frames shall be knocked set-up and arc-welded. Miter corners shall have reinforcements with four integral tabs for secure and easy interlocking jambs to head. Closed section mullions to have internal web reinforcement.
- D. Frames shall be supplied with factory installed inserted type rubber bumpers, (3) per strike jamb and (2) per head, for pair of doors. Stick on bumpers shall not be permitted.
- E. Frames for 1-3/4" doors shall have 8-gage steel hinge reinforcements. Strike reinforcements shall be 16-gage and prepared for an ANS-A115, 1-2 strike.
- F. Metal plaster guards shall be provided for all mortised cutouts.
- G. All hinge and strike reinforcements shall be projection welded to the door frame. All frames shall have high frequency hinge reinforcement at the top hinge.
- H. Reinforcements for surface closer shall be 14-gage steel. Adequate reinforcements shall be provided for other hardware when required.
- I. Galvanized frames shall have galvanized hardware reinforcements. Frames shall be furnished with a minimum of six wall anchors and two adjustable base anchors of manufacturer's standard design.
- J. Provide 4-inch wide head frames for frames in concrete block walls.
- K. See door schedule and frame types for non-standard door and frame sizes.

## 2.5 ACCESSORIES

- A. Bituminous Coating: Non-asbestos fibered asphalt emulsion. Required only where frames are solid-grouted and/or installed in exterior masonry or concrete walls.
- B. Primer: Zinc chromate type.
- C. Weatherstripping: specified in Section 08710.

- D. Accessories for stainless steel components shall be stainless steel.

## 2.6 FABRICATION

- A. Fabricate doors with hardware reinforcement welded in place. Factory attach astragal to one leaf of pairs of doors.
- B. Attach fire rated label to each fire rated door unit.
- C. Configure exterior doors to receive recessed weatherstripping.
- D. Frames shall be of continuously welded construction, square, accurately sized and shaped to profiles shown. Miters shall be backwelded. Provide two welded spreader bars at base for field removal. All welds ground smooth.
- E. Fabricate frames and doors with hardware reinforcement plates welded in place.
- F. Frame stop depth minus 5/8 inch.
- G. Prepare frame for silencers. Provide three single silencers for single door on strike plate.
- H. Provide mortar guard boxes at masonry construction. Provide 4 inch high relite base where detailed. Provide 4 inch wide door/relite mullion where detailed.
- I. Fully grout all labeled door frames.
- J. Attach fire rated label to each fire rated frame.

## 2.7 SHOP FINISHING

- A. Exterior Units: ASTM A653/A653M A60.
- B. Interior Units: ASTM A653/A653M A60.
- C. Primer: Baked.
- D. Factory Finish: Baked enamel. Colors as selected.
- E. Coat inside frame profile with bituminous coating to minimum thickness of 1/16 inch for all frames in contact with masonry.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify opening sizes and tolerances are acceptable.

### 3.2 INSTALLATION

- A. Install doors, frames and accessories in accordance with SDI recommendations and approved shop drawings.
- B. Install labeled doors and frames in accordance with NFPA 80.
- C. Coordinate installation of glass and glazing specified in Section 08800.
- D. Touch-up factory finished doors.

### 3.3 ERECTION TOLERANCES

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Maximum Diagonal Distortion: Conformed to tolerances required in SDI.

### 3.4 ADJUSTING

- A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Adjust door for smooth and balanced door movement.

END OF SECTION

1 GENERAL

1.1 SECTION INCLUDES

- A. Tubular daylighting device, consisting of roof dome, reflective tube, and diffuser assembly; configuration as indicated on the drawings.
- B. Accessories.

1.2 RELATED SECTIONS

- C. Section 07311 - Asphalt Shingles: Flashing of skylight base.

1.3 REFERENCES

- D. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- E. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2008a.
- F. ASTM A 463/A 463M - Standard Specification for Steel Sheet, Aluminum Coated, by the Hot Dip Process; 2006.
- G. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized), by the Hot Dip Process; 2007.
- H. ASTM A792/A 792M – Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
- I. ASTM E 283 - Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004.
- J. ASTM E 308 - Standard Practice for Computing the Colors of Objects by Using the CIE System; 2006.
- K. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls and Doors; 2002.
- L. ASTM E 547 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain walls by Cyclic Air Pressure Difference; 2000.
- M. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- N. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricane
- O. ASTM D 635 - Test Method for Rate of Burning and/or Extent of Time of Burning of Self-Supporting Plastics in a Horizontal Position; 2006.

- P. ASTM D-1929 - Test Method for Ignition Properties of Plastics; 1996 (2001).
- Q. UL 181 - Factory Made Air Ducts and Air Connectors
- R. ICC AC-16 - Acceptance Criteria for Plastic Skylights; 2008.

#### 1.4 PERFORMANCE REQUIREMENTS

- S. Completed tubular daylighting device assemblies shall be capable of meeting the following performance requirements:
  - 1. Air Infiltration Test: Air infiltration will not exceed 0.30 cfm/sf aperture with a pressure delta of 1.57 psf across the tube when tested in accordance with ASTM E 283.
  - 2. Water Resistance Test: No uncontrolled water leakage at 10.5 psf pressure differential with water rate of 5 gallons/hour/sf when tested in accordance with ASTM E 547.
  - 3. Uniform Load Test:
    - a. No breakage, permanent damage to fasteners, hardware parts, or damage to make system inoperable or cause excessive permanent deflection of any section when tested at a Positive Load of 150 psf (7.18 kPa) or Negative Load of 60 psf (2.87 kPa) in accordance with ICC AC-16 Section A, or Negative Load of 70 psf (3.35 kPa) if tested per ICC AC-16 Section B.
    - b. All units shall be tested with a safety factor of (3) for positive pressure and (2) for negative pressure, acting normal to plane of roof in accordance with ASTM E 330.
  - 4. Fire Testing:
    - a. When used with the Dome Edge Protection Band, all domes meet fire rating requirements as described in the 2006 International Building Code.
    - b. Self-Ignition Temperature - Greater than 650 degrees F per ASTM D-1929.
    - c. Smoke Density - Rating no greater than 450 per ASTM Standard E 84 in way intended for use. Classification C.
    - d. Rate of Burn and/or Extent - Maximum Burning Rate: 2.5 inches/min (62 mm/min) Classification CC-2 per ASTM D 635.
    - e. Rate of Burn and/or Extent - Maximum Burn Extent: 1 inch (25 mm) Classification CC-1 per ASTM D 635.

#### 1.5 SUBMITTALS

- T. Submit under provisions of Section 01300.
- U. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- V. Shop Drawings. Submit shop drawings showing layout, profiles and product components, including anchorage, flashings and accessories.
- W. Verification Samples: As requested by Architect.

- X. Test Reports: Independent testing agency or evaluation service reports verifying compliance with specified performance requirements.

## 1.6 QUALITY ASSURANCE

- Y. Manufacturer Qualifications: Engaged in manufacture of tubular daylighting devices for minimum 15 years.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- Z. Store products in manufacturer's unopened packaging until ready for installation.
- AA. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

## 1.8 PROJECT CONDITIONS

- BB. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## 1.9 WARRANTY

- CC. Daylighting Device: Manufacturer's standard warranty for 10 years.
- DD. Electrical Parts: Manufacturer's standard warranty for 5 years, unless otherwise indicated.

## 2 PRODUCTS

### 2.1 MANUFACTURERS

- EE. Acceptable Manufacturer: Solatube International, Inc.; 2210 Oak Ridge Way, Vista, CA 92081. ASD. Tel. Toll Free: 888-765-2882. Tel: (760) 477-1120. Fax: (760) 597-4488. Email: commsales@solatube.com. Web: www.solatube.com.
- FF. Substitutions: Approved Substitutions Permitted.
- GG. Requests for substitutions will be considered in accordance with provisions of Section 01600.

### 2.2 TUBULAR DAYLIGHTING DEVICES

- HH. Tubular Daylighting Devices General : Transparent roof-mounted skylight dome and self-flashing curb, reflective tube, and ceiling level diffuser assembly, transferring sunlight to interior spaces; complying with ICC AC-16.
- II. Brighten Up Series: Solatube Model 290 DS: 14 Inch (350 mm) Daylighting System:

1. Roof Dome Assembly: Transparent, UV and impact resistant dome with flashing base supporting dome and top of tube.
  - a. Outer Dome Glazing: Type DA, 0.125 inch (3.25 mm) minimum thickness impact resistant injection molded acrylic classified as CC2 material; UV inhibiting (100 percent UV C, 100 percent UV B and 98.5 percent UV A), impact modified acrylic blend.
  - b. Raybender 3000: Variable prism optic molded into outer dome to capture low angle sunlight and limit high angle sunlight.
  - c. Optional Shock Inner Dome Glazing: Type DI, 0.115 inch (2.9 mm) minimum thickness classified as CC1 material. High impact resistant injection molded acrylic required for high velocity wind zones.
  - d. LightTracker Reflector: Aluminum sheet, thickness 0.015 inch (0.4 mm) with Spectralight Infinity. Positioned in dome to capture low angle sunlight.
2. Flashing Base: One piece, seamless, leak-proof flashing functioning as base support for dome and top of tube.
  - a. Base Material: Sheet steel, corrosion resistant, meeting ASTM A 653/A 653M or ASTM A 463/A 463M or ASTM A792/A 792M, 0.028 inch (0.7 mm) plus or minus .006 inch (.015 mm) thick.
  - b. Base Flat: Flat Type F4, no pitch 4 inches (102 mm) high.
  - c. Base Flat: Flat Type F6, no pitch 6 inches (152 mm) high.
  - d. Base Pitched: Pitched Type FP, 22.5 degrees slope from horizontal, 4 inches (102 mm) high.
  - e. Base Style: Type FC, Curb cap, with inside dimensions of 27 inches by 27 inches (685 mm x 685 mm) to cover curb as specified in Section 07600.
  - f. Tile Roof No Pitch: No Pitch Type FT, 4 inches (102 mm) high. Tile Roof Counter-Flashing: corrugated aluminum 1100-0, 0.020 inch (.508 mm).
  - g. Tile Roof Pitched: Pitched Type FPT, 22.5 degrees slope from horizontal, 4 inches (102 mm) high. Tile Roof Counter-Flashing: corrugated aluminum 1100-0, 0.020 inch (.508 mm).
  - h. Flashing Insulator: Type FI. Thermal isolation material for use under flashing.
  - i. Metal Roof Flashing Kit: Type MR. Includes Butyl tape, flashing screws, speed nuts, corner washers and polyurethane sealant.
  - j. Dome Edge Protection Band: Type PB, For fire rated roofs. Aluminized steel. Nominal thickness of 0.028 inches (0.7 mm).
3. Roof Flashing Turret Extensions: Provide manufacturer's standard extensions for applications requiring:
  - a. Type T02: Additional lengths of 2 inches (50 mm) extension.
  - b. Type T04: Additional lengths of 4 inches (100 mm) extension.
  - c. Type T012: Additional lengths of 12 inches (300 mm) extension.
  - d. Type T024: Additional lengths of 24 inches (600 mm) extension.
  - e. Type T036: Additional lengths of 36 inches (900 mm) extension.
  - f. Type T048: Additional lengths of 48 inches (1200 mm) extension.
4. Tube Ring: Attached to top of base section; 0.090 inch (2.3 mm) nominal thickness injection molded high impact acrylic; to prevent thermal bridging between base flashing and tubing and channel condensed moisture out of tubing.
5. Reflective Extension Tube: Aluminum sheet, thickness 0.015 inch (0.4 mm).
  - a. Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 80.2 percent.



- b. Color:  $a^*$  and  $b^*$  (defined by CIE  $L^*a^*b^*$  color model) shall not exceed plus 2 or be less than minus 2 as determined in accordance to ASTM E 308.
  - c. Tube Diameter: Approximately 14 inches (356 mm).
6. Reflective 30 degree Adjustable tube: Aluminum sheet, thickness .015 inch (0.4 mm)
- a. Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 80.2 percent.
7. Reflective 90 degree Adjustable tube: Aluminum sheet, thickness .018 inch (0.5 mm)
- a. Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 80.2 percent.
  - b. Extension Tube Angle Adapter: Provide manufacturer's standard adaptors for applications requiring:
    - 1) Type A1 one 0 to 90 degree extension tube angle adapter.
    - 2) Type A2 two 0 to 90 degree extension tube angle adapters.
8. Ceiling Ring: Injection molded impact resistant acrylic. Nominal thickness is 0.110 inches (2.8 mm).
9. Dual Glazed Diffuser Assembly:
- a. Lower glazing with integral injection molded acrylic Dress Ring classified as CC2 material. Nominal thickness is 0.110 inches (2.8 mm):
    - 1) Classic Vusion Diffuser: Molded acrylic plastic classified as CC2 material (nominal thickness 0.090 inches (2.29 mm) with injection molded acrylic Diffuser Trim Ring. Type L4.
    - 2) Classic OptiView (Fresnel Lens) Diffuser: Molded polycarbonate plastic classified as CC1 material, nominal thickness 0.022 inches (0.61 mm) with injection molded acrylic Diffuser Trim Ring. Type L1.
    - 3) JustFrost Decorative Fixture: Full-tempered glass lens (nominal thickness is 0.16 inches (4 mm)), and decorative metal fasteners. Type L9.
    - 4) TierDrop Decorative Fixture: Three layers of full-tempered frosted glass lens (nominal thickness is 0.16 inches (4 mm)). Bottom layer is continuous with two stepped full-tempered glass rings on top and decorative metal fasteners. Type L10.
    - 5) OptiView Decorative Fixture: Molded polycarbonate plastic Fresnel Lens classified as CC1 material (nominal thickness is 0.022 inches (0.61 mm)) with full-tempered frosted glass bezel (nominal thickness is 0.16 inches (4 mm)), and decorative metal fasteners. Type L11.
    - 6) VividShade Decorative Fixture: Full-tempered frosted glass lens (nominal thickness is 0.16 inches (4 mm)), integral flame retardant linen shade with translucent frosted PVC inner liner, nominal thickness 0.16 inches (0.4mm); decorative zinc plated steel (concealed) and stainless steel (exposed) fasteners. Type L12.
  - b. Lower glazing with integral 2-piece aluminum/zinc alloy coated steel Fixture Mounting Ring (23 gauge; nominal thickness 0.031 inches (0.787 mm)):
    - 1) AuroraGlo Decorative Fixture: Glass Bowl acid etched lens, with two-tone black/bronze painted decorative metal trim ring. Type L13.
    - 2) QuadraFrost Decorative Fixture: Hand-fabricated Metal Housing with integral full-tempered frosted glass lens inserts (nominal thickness is 0.16 inches (4 mm) each). Type L14.

- c. Upper glazing: PET GAG plastic with EPDM low density sponge seal to minimize condensation and bug, dirt, and air infiltration per ASTM E283. The nominal thickness is 0.039 inches (0.99 mm).
  - 1) Natural Effect Lens: Type LN.
  - 2) Softening Effect Lens: Type LS.

## 2.3 ACCESSORIES

- JJ. Fasteners: Same material as metals being fastened, non-magnetic steel, non-corrosive metal of type recommended by manufacturer, or injection molded nylon.
- KK. Suspension Wire: Steel, annealed, galvanized finish, size and type for application and ceiling system requirement.
- LL. Sealant: Polyurethane or copolymer based elastomeric sealant as provided or recommended by manufacturer.

## 3 EXECUTION

### 3.1 EXAMINATION

- MM. Do not begin installation until substrates have been properly prepared.
- NN. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- OO. Clean surfaces thoroughly prior to installation.
- PP. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- QQ. Install in accordance with manufacturer's printed instructions.
- RR. After installation of first unit, field test to determine adequacy of installation. Conduct water test in presence of Owner, Architect, or Contractor, or their designated representative. Correct if needed before proceeding with installation of subsequent units.

### 3.4 PROTECTION

- SS. Protect installed products until completion of project.

TT. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes hardware for doors.
  - 1. Provide door gaskets, including weatherstripping and seals, and thresholds.
- B. Related Sections:
  - 1. Section 08111 - Steel Doors and Frames.

**1.2 REFERENCES**

- A. American National Standards Institute:
  - 1. ANSI A156.1 - Butts and Hinges.
  - 2. ANSI A156.2 - Bored and Preassembled Locks and Latches.
  - 3. ANSI A156.3 - Exit Devices.
  - 4. ANSI A156.4 - Door Controls - Closures.
  - 5. ANSI A156.8 - Door Controls - Overhead Holders.
  - 6. ANSI A156.13 - Mortise Locks and Latches.
  - 7. ANSI A156.14 - Sliding and Folding Door Hardware.
  - 8. ANSI A156.15 - Closer Holder Release Devices.
  - 9. ANSI A156.16 - Auxiliary Hardware.
  - 10. ANSI A156.18 - Materials and Finishes.
- B. National Fire Protection Association:
  - 1. NFPA 80 - Standard for Fire Doors, Fire Windows.
  - 2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
- C. Underwriters Laboratories Inc.:
  - 1. UL 10B - Fire Tests of Door Assemblies.
  - 2. UL 305 - Panic Hardware.
  - 3. UL - Building Materials Directory.
- D. Warnock Hersey:
  - 1. WH - Certification Listings.

**1.3 PERFORMANCE REQUIREMENTS**

- A. Fire Rated Openings: Provide door hardware listed by UL or other testing laboratory approved by applicable authorities.
  - 1. Hardware: Tested in accordance with NFPA 252.

**1.4 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings:
  - 1. Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts.
  - 2. Submit manufacturer's parts lists and templates.
    - a. Submit to the Architect one (1) complete schedule (PDF) of all finish hardware proposed to be furnished for this Work, giving manufacturer's name and catalog number for each item. ONE COPY OF THE SCHEDULE SHALL CONTAIN CATALOG CUTS OF EACH SUPPLIED.
    - b. List each opening and identify the manufacturer of each item; show hand, lock side, size, thickness and material of doors and frames; give manufacturer's complete catalog number for each item; show style and finish of each item; show keying of all locks and locksets. Provide Shop Drawings for special made items.

- c. The approval of the Hardware Schedule does not relieve Contractor of the responsibility of furnishing all hardware required for the project.
- C. Manufacturer's Recommendations: Prior to installation, deliver to all installing personnel complete recommendations from the manufacturers regarding installation methods.
- D. Samples: Submit to the Architect, if requested, properly labeled samples of any items of Finish Hardware scheduled herein or listed in the Detailed Schedule of Hardware. Samples will be returned to the Contractor and then may be incorporated into the Work.
- E. Provide Architect with manufacturer's parts list and maintenance instructions under provisions of Section 01700 for each type of hardware supplied and necessary wrenches and tools required for proper maintenance of hardware.
- F. Manufacturer's Installation Instructions: Submit special procedures, and perimeter conditions requiring special attention.

### **1.5 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of installed cylinders and their master key code.
- C. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- D. Keys: Furnish locks with removable cores. Keying by SOU.

### **1.6 QUALITY ASSURANCE**

- A. Perform Work in accordance with the following requirements:
  - 1. ANSI A156 series.
  - 2. NFPA 80.
  - 3. UL 305.

### **1.7 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Hardware Supplier: Company specializing in supplying institutional door hardware with minimum three years documented experience.
- C. Qualifications of Supplier:
  - 1. Hardware supplier shall be, or have in his employment, a qualified Hardware Consultant who shall be available on a 24-hour notice at the jobsite by request of the Architect to consult, advise and assist in the installation of the Finish Hardware. He shall attend a Keying Conference with the Owner and Architect and provide a Keying Schedule resulting from this Conference.
  - 2. At the completion of the project and prior to final job closeout, the Hardware Supplier Consultant shall visit the Project and inspect all Hardware as installed. He shall advise the Architect by letter that all Hardware is per specification, properly installed and correctly adjusted, or note matters that require correction.
  - 3. Hardware Supplier shall be a Factory Direct Distributor for all products and services required for this Project and shall so certify in his Hardware schedule submittal.
- D. It is the intent of this specification to provide general guidelines for the quality, function and design of the architectural finish hardware. It is the specific responsibility of the hardware supplier to furnish products which are fully functional, in full compliance with

state and local building codes, fire codes and handicap codes. Any supplier bidding on this section of work will notify the Architect, prior to bidding, of discrepancies, or will be assumed to have included correct material to make this compliance.

- E. Products Requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., as suitable for purpose specified and indicated.

## **1.8 PRE-INSTALLATION MEETINGS**

- A. Not Required

## **1.9 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.

## **1.10 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.
  - 1. Provide templates or actual hardware as required to ensure proper preparation of doors and frames.
- C. Sequence installation to accommodate required utility connections.
- D. Coordinate Owner's keying requirements during course of Work.

## **1.11 WARRANTY**

- A. Section 01700 - Execution Requirements: Product warranties and product bonds.
- B. Furnish two year manufacturer warranty for all hardware except surface closers which shall be guaranteed for 10 years.

## **1.12 MAINTENANCE MATERIALS**

- A. Section 01700 - Execution Requirements: Maintenance materials.
- B. Furnish special wrenches and tools applicable for each different and for each special hardware component.
- C. Furnish maintenance tools and accessories supplied by hardware component manufacturer.

## **1.13 KEYING**

- A. Furnish locks with removable cores. Final keying by SOU.

## **PART 2 PRODUCTS**

### **2.1 HARDWARE**

- A. Provide hardware and related accessories listed in the Schedule at the end of this Section, complete to function intended.
- B. Doors and frames used in positive pressure opening assemblies shall meet UBC 7-2-97 and UL 10C in areas where this has been adopted by local authority having jurisdiction. This specification includes gasketing for smoke only. Intumescent gasketing to be provided with wood door assemblies Section 08210.

### **2.2 ACCEPTABLE MANUFACTURERS**

## A. Manufacturers:

<u>PRODUCT</u>	<u>MANUFACTURER</u>
BUTTS	STANLEY
LOCKSETS	SCHLAGE
OCCUPANCY IND.	SCHLAGE
LATCHGUARD	IVES
CLOSERS	SARGENT
EXIT DEVICE	VON DUPRIN
PUSH/PULL	TRIMCO
KICKPLATES	IVES
FLUSHBOLT	IVES
FLOOR STOPS	TRIMCO
WALL STOPS	IVES
OVERHEAD STOP	GLYNN-JOHNSON
THRESHOLD	PEMKO
DOOR SWEEPS	PEMKO
DRIP CAP	PEMKO
GASKET	STEELCRAFT

- B. Furnish all hardware fastenings to metal, or other material requiring template hardware, to template so that all finish hardware and work of all trades will fit together in proper manner as intended by the Drawings and Specifications.
- C. It shall be the responsibility of the Hardware Supplier to furnish complete information, templates and template hardware to special door and frame manufacturers for application at the factory, unless otherwise directed, and coordinate the hardware specified and to be furnished with these suppliers.

**2.3 COMPONENTS**

- A. General Hardware Requirements: Where not specifically indicated, comply with applicable ANSI A156 standard for type of hardware required. Furnish each type of hardware with accessories as required for applications indicated and for complete, finished, operational doors.
1. Templates: Furnish templates or physical hardware items to door and frame manufacturers sufficiently in advance to avoid delay in Work.
  2. Reinforcing Units: Furnished by door and frame manufacturers; coordinated by hardware supplier or hardware manufacturer.
  3. Fasteners: Furnish as recommended by hardware manufacturer and as required to secure hardware.
    - a. Finish: Match hardware item being fastened.
  4. Fire Ratings: Provide hardware with UL listings for type of application involved.
- B. Design: All fasteners shall harmonize with the hardware as to material and finish.

**2.4 FINISHES**

- A. Dull Chrome US26D.

**2.5 DOOR CLOSERS**

- A. All surface door closers shall be size as specified. Check degree of opening for all closers. Brackets or drop plates of proper type and size to be provided where necessary. No exposed fasteners.

- B. It shall be the responsibility of the hardware supplier to verify the proper mounting of the closers.

## **2.6 DOOR SILENCERS**

- A. Three silencers for single doors, four for pairs of doors. GJ #65. Omit at doors with weatherstripping or draftseal.

## **2.7 HINGES**

- A. Provide non-removable pins on any outswinging, exterior door hinges.

## **2.8 DOOR STOPS**

- A. Door stops to be provided for all doors.
- B. Stop numbers refer to types. Door stops are to be placed at point of contact. In certain locations, it may be advantageous to place stop on the door.
- C. Substitute floor for wall or wall for floor stop where door function requires.

## **2.9 LOCK AND LATCH DESIGN**

- A. All keyed locks shall be 6 pin.
- B. Strikes to have extended lip where required to protect trim from being marred by latch bolt.
- C. For ease of maintenance, it is mandatory that all cylindrical lock cylinders be furnished so cylinders can be removed without removing lock from door.
- D. All lock chassis must be equipped with neoprene, or other material washer, under inside rose to prevent rose from loosening on the doors. It is also mandatory that a key to be used to remove cylinder knob, whether in locked or unlocked position.
- E. Backset: 2-3/4 inch standard, 3-3/4 inch where required to clear weatherstripping.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify doors and frames are ready to receive door hardware and dimensions are as indicated on shop drawings.

### **3.2 INSTALLATION**

- A. Coordinate mounting heights with door and frame manufacturers. Use templates provided by hardware item manufacturer.
- B. Mounting Heights From Finished Floor to Center Line of Hardware Item: Comply with manufacturer recommendations and applicable codes where not otherwise indicated.
  - 1. Locksets: 38 inch.
  - 2. Push/Pulls: 42 inch.
  - 3. Dead Locks: 48 inch.
  - 4. Push Pad Type Exit Devices: 42 inch.
  - 5. Cross Bar Type Exit Devices: 38 inch.
  - 6. Top Hinge: Jamb manufacturer's standard, but not greater than 10 inches from head of frame to center line of hinge.
  - 7. Bottom Hinge: Jamb manufacturer's standard, but not greater than 12-1/2 inches from floor to center line of hinge.



8. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.
  9. Hinge Mortise on Door Leaf: 1/4 inch to 5/16 inch from stop side of door.
- C. The hardware supplier shall visit the job site and instruct the hardware installer in the proper use and interpretation of the Hardware Schedule and templates and shall instruct him in the proper installation of hardware at the time of delivery of the hardware and at whatever other times the Architect or General Contractor shall deem necessary.

### 3.3 FIELD QUALITY CONTROL

- A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Architectural Hardware Supplier inspect installation and certify hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

### 3.4 ADJUSTING

- A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Adjust hardware for smooth operation.

### 3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01700 - Execution Requirements: Protecting installed construction.
- B. Do not permit adjacent work to damage hardware or hardware finish.

### 3.6 SCHEDULE

#### GROUP 1

DOORS B102A, B102B

3 EA BUTTS FBB179 4.5 x 4.5	652	STANLEY
1 EA LOCKSET ND80PD RHO	626	SCHLAGE
1 EA CLOSER 4040XP	ALUM	LCN
1 EA THRESHOLD 272A	ALUM	PEMKO
1 EA DOOR BOTTOM 216AV	ALUM	PEMKO
1 EA GASKET PS074	BLK	STEELCRAFT

#### GROUP 2

DOORS 101A, 103A, 107A

3 EA BUTTS FBB179 4.5 x 4.5	652	STANLEY
1 EA PULL 1017-3 4 x 16	630	TRIMCO
1 EA PUSH 1001-3 4 x 16	630	TRIMCO
1 EA CLOSER 4040XP	ALUM	LCN
1 EA WALLSTOP WS407CCV	630	IVES
1 EA KICKPLATE 8400 10 x 2LDW	630	IVES
3 EA SILENCERS SR64	GRY	IVES

**GROUP 3**

DOOR 102A

Provide power for SOU provided electronic lock.

ALL OTHER HARDWARE EXISTING

0

**GROUP 4**

DOORS 105A

3 EA BUTTS FBB179 4.5 x 4.5	652	STANLEY
1 EA LOCKSET ND80PD RHO	626	SCHLAGE
1 EA CLOSER 4040XP	ALUM	LCN
1 EA WALLSTOP WS407CCV	630	IVES
1 EA THRESHOLD 272A	ALUM	PEMKO
1 EA DOOR BOTTOM 216AV	ALUM	PEMKO
1 EA GASKET PS074	BLK	STEELCRAFT

**GROUP 5**

DOORS 106A, 107A

3 EA BUTTS FBB179 4.5 x 4.5	652	STANLEY
1 EA LOCKSET ND53PD RHO	626	SCHLAGE
1 EA CLOSER 4040XP	ALUM	LCN
1 EA WALLSTOP WS407CCV	630	IVES
3EA SILENCERS SR64		

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes gypsum board and joint treatment; cementitious backer board; smooth and textured finishes.
- B. Related Sections:
  - 1. Section 06100 - Rough Carpentry: Building wood framing system.
  - 2. Section 07213 - Batt Insulation: Acoustic and Thermal insulation.
- C. Alternates: Refer to Section 01200 for possible effect upon work in this section.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM C36 - Standard Specification for Gypsum Wallboard.
  - 2. ASTM C442 - Standard Specification for Gypsum Backing Board and Coreboard.
  - 3. ASTM C475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
  - 4. ASTM C630/C630M - Standard Specification for Water-Resistant Gypsum Backing Board.
  - 5. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
  - 6. ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
- B. Gypsum Association:
  - 1. GA 214 - Recommended Levels of Gypsum Board Finish.
  - 2. GA 216 - Application and Finishing of Gypsum Board.
- C. Underwriters Laboratories Inc.:
  - 1. UL - Fire Resistance Directory.

### **1.3 PERFORMANCE REQUIREMENTS**

- A. Conform to applicable UBC code for fire rated assemblies in conjunction with Sections 06100 and 09111 as follows:
  - 1. Fire Rated Partitions: Listed assembly by UL.
  - 2. Fire Rated Ceiling and Soffits: Listed assembly by UL.
  - 3. Fire Rated Structural Column Framing: Listed assembly by UL.
  - 4. Fire Rated Structural Beam Framing: Listed assembly by UL.

### **1.4 SUBMITTAL**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on gypsum board, joint tape and metal accessories.

### **1.5 QUALITY ASSURANCE**

- A. Perform Work in accordance with ASTM C840.

### **1.6 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

**1.7 MOCKUP**

- A. Section 01400 - Quality Requirements: Requirements for mockup.
- B. Construct mock-up, 8 feet long by 8 feet wide, including interior wall system illustrating surface finish.
- C. Locate where directed by Architect.
- D. Incorporate accepted mockup as part of Work.

**PART 2 PRODUCTS**

**2.1 GYPSUM BOARD ASSEMBLIES**

- A. Manufacturers:
  - 1. G-P Gypsum Corp.
  - 2. National Gypsum Co.
  - 3. United States Gypsum Co.
  - 4. Domtar Gypsum
  - 5. Substitutions: Section 01600 - Product Requirements.

**2.2 COMPONENTS**

- A. Framing Materials:
  - 1. Steel Sheet Backing: 12 gage galvanized sheet steel.
  - 2. Fasteners: ASTM C1002, 1 inch Type 'S' Bugle Head for metal framing. 1 inch Type 'W' Bugle Head for wood framing.
  - 3. Hangar Wire: 9 gage galvanized annealed steel wire.
  - 4. Tie Wire: 18 gage galvanized annealed steel wire.
- B. Gypsum Board Materials:
  - 1. Fire Rated Gypsum Board: ASTM C36; fire resistive type, UL rated; 5/8 inch thick, maximum available length in place; ends square cut, tapered and beveled edges.
  - 2. Moisture Resistant Gypsum Board: ASTM C630, 5/8 inch thick, maximum available length in place; ends square cut, tapered and beveled edges.
  - 3. Gypsum Backing Board: ASTM C442; fire rated type; 5/8 inch thick; vee grooved edges, maximum length in place.
  - 4. Cementitious Backing Board: High density, glass fiber reinforced, 5/8 inch thick. Georgia Pacific Corporation Dens Shield tile backer, Fin Pan Util-A-Crete tile backer or approved equal.
  - 5. High-Abuse Gypsum Board:
    - a. ASTM C840, 5/8 inches thick, tapered edges meeting flame spread requirements of ASTM E84.
    - b. A gypsum core wall panel with additives to enhance fire resistance, surface indentation and impact resistance of the core and surfaced with abrasion resistant paper on front and long edges with heavy liner paper bonded to the back side and complying with ASTM C36/C1396 Type X.

**2.3 ACCESSORIES**

- A. Acoustic Sealant: Type specified in Section 07900 - Joint Sealers.
- B. Corner Beads: Metal. USG 800 galvanized.
- C. Edge Trim: USG 200-B galvanized.
- D. Control Joint: USG No. 093 galvanized.
- E. Special Trim: Fry aluminum Special Sections, paint finish to match grid.
- F. Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water.
- G. Textured Finish Materials: Latex based texturing material.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify site conditions are ready to receive work and work may be installed in accordance with applicable codes, the original design and referenced standards.
- C. Beginning of installation means acceptance of substrate.
- D. Verify backing is in place for attaching hardware, specialties and accessories.

### **3.2 INSTALLATION**

- A. Gypsum Board Installation:
  - 1. Install gypsum board in accordance with GA-216 and GA-600.
  - 2. Unless otherwise noted, erect single layer fire rated gypsum board horizontally, with edges and ends occurring over firm bearing.
  - 3. Use screws when fastening gypsum board to metal and wood furring or framing.
  - 4. Double Layer Applications: Use gypsum backing board for first layer, placed perpendicular parallel to framing or furring members. Use fire rated gypsum backing board for fire rated partitions and ceilings. Install in accordance with manufacturers recommendations.
  - 5. Treat cut edges and holes in moisture resistant gypsum board with sealant.
  - 6. Place corner beads at external corners as indicated on Drawings. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.
  - 7. Install cementitious backing board over wall framing behind base materials as noted on Finish Schedule.
  - 8. Provide one-hour rated gypsum board boxes around recessed light fixtures in rated gypsum board ceilings.
  - 9. Caulking: Install full sealant bead at bottom of gypsum panels and between panels and other adjacent materials.
  - 10. Caulk all penetrations of panels by conduits, pipes, ductwork, rough-in boxes and accessories.
- B. Joint Treatment:
  - 1. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
  - 2. Gypsum wallboard shall be finished as scheduled.
  - 3. Feather coats onto adjoining surfaces so that camber is maximum 1/16 inch.
  - 4. Fire tape only gypsum wallboard surfaces above ceilings and unexposed surfaces. Trowel firetaping to remove rough cement texture, continue exposed finish texture 3 inches minimum past ceilings. Finish walls behind cabinets and all applied fixtures and equipment.
  - 5. Fill and finish joints and corners of cementitious backing board.

### **3.3 ERECTION TOLERANCES**

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet.

### **3.4 SCHEDULES**

- A. General:
  - 1. Level 2: Above finished ceilings concealed from view, and ceramic tile substrates.

SECTION 09260

GYPSUM BOARD ASSEMBLIES

PAGE 4

2. Level 4: Walls and ceilings exposed to view except as noted, wallcovering substrates and surfaces receiving texture.

B. Textures:

1. Smooth.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes ceramic tile for wall and floor applications using thin set and mortar bed application methods and ceramic accessories.
- B. Related Sections:
  - 1. Section 07900 - Joint Sealers.
- C. Alternates: Refer to Section 01200 for possible effect upon work in this section.

**1.2 REFERENCES**

- A. American National Standards Institute:
  - 1. ANSI A108.1 - Installation of Ceramic Tile, A collection.
  - 2. ANSI A108.10 - Specifications for Installation of Grout in Tile work.
  - 3. ANSI A108.1A - Specifications for Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar.
  - 4. ANSI A108.1B - Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar.
  - 5. ANSI A108.5 - Specifications for Ceramic Tile Installed with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
  - 6. ANSI A118.1 - Standard Specification for Dry-Set Portland Cement Mortar.
  - 7. ANSI A118.4 - Latex-Portland Cement Mortar.
  - 8. ANSI A118.6 - Ceramic Tile Grouts.
  - 9. ANSI A136.1 - Organic Adhesives for Installation of Ceramic Tile.
  - 10. ANSI A137.1 - Ceramic Tile.
- B. Tile Council of America:
  - 1. TCA - Handbook for Ceramic Tile Installation.

**1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, ceramic accessories, and setting details.
- C. Product Data: Submit instructions for using grouts and adhesives.
- D. Samples: Submit color and texture samples of full range of manufacturers colors for each type tile specified.

**1.4 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

**1.5 QUALITY ASSURANCE**

- A. Perform Work in accordance with TCA Handbook and ANSI A108 Series/A118 Series.

**1.6 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

**1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Protect adhesives and grouts from freezing or overheating.

**1.8 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Product Requirements.
- B. Do not install adhesives and grouts in unventilated environment.
- C. Maintain ambient and substrate temperature of 50 degrees F during installation and curing of mortar materials.

**1.9 EXTRA MATERIALS**

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
- B. Supply 4 sq ft of each size, color, and surface finish of field tile specified.

**PART 2 PRODUCTS**

**1.1 TILE**

- A. Manufacturers:
  - 1. Daltile
  - 2. Approved substitutions permitted.

**1.2 COMPONENTS**

- A. Tile -1 - Ceramic Wall Tile: Daltile - 'Natural Hue's Field Tile, 4" x 4". Color by Owner.
- B. Provide cove base tile.

**1.3 ACCESSORIES**

- A. Adhesive Materials:
  - 1. Organic Adhesive: ANSI A136.1, thin-set bond type
- B. Mortar Materials:
  - 1. Mortar Bed Materials: Portland cement, sand, latex additive and water.
  - 2. Mortar Bond Coat Materials:
    - a. Dry-Set Portland Cement type: ANSI A118.1.
    - b. Latex-Portland Cement type: ANSI A118.4.
- C. Grout Materials:
  - 1. Standard Grout: Portland cement type as specified in ANSI A118.6.
    - a. Color: Mapei, match tile, 1/8" joint.
- A. Membrane at Walls: No. 15 asphalt saturated felt.
- B. Reinforcing Mesh: 2 x 2 inch size weave of 16/16 wire size; welded fabric, galvanized.
- C. Waterproof Admixture:
  - 1. "Hydro Ban" by Laticrete or approved. Provide in all mortar.
- D. Joint Sealers: As specified in Section 07900.
- E. Edge Strips: 1/4 inch brushed nickel angle trim. Upstand, Schluter or approved.
- I. Grout and tile sealant: 511 Impregnator, natural look penetrating sealer as manufactured by Miracle Sealant Company. Approved substitutions only.

**PART 3 EXECUTION**

**3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.



- B. Verify surfaces are ready to receive work.

### 3.2 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

### 3.3 INSTALLATION

- A. Install tile, thresholds and grout in accordance with applicable requirements of ANSI A108.1 through A108.10, and TCA Handbook recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
- C. Place thresholds edge strips at exposed tile edges.
- D. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor, base and wall joints.
- E. Place tile with joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
  - 1. Ceramic Tile: 1/8 inch.
- F. Form internal angles square coved and external angles bullnosed square.
- G. Sound tile after setting. Replace hollow sounding units.
- H. Keep expansion control joints free of adhesive or grout. Apply sealant to joints.
- I. Allow tile to set for a minimum of 48 hours prior to grouting.
- J. Grout tile joints.
- K. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.
- L. Installation - Floors - Mortar Bed Methods:
  - 1. Over interior concrete substrates, install in accordance with TCA Handbook Method F112, bonded.
  - 2. Mortar Bed Thickness: 1-3/4 inches unless otherwise indicated.
- M. Floor Expansion Joints: Install expansion joints in accordance with TCA Handbook EJ 171.

### 3.5 CLEANING

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Clean tile and grout surfaces.

### 3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01700 - Execution Requirements: Protecting installed construction.
- B. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes resilient base.
- B. Related Sections:
  - 1. Section 09260 - Gypsum Wallboard: Wall substrate to receive base.
  - 2. Section 09686 - Sheet Carpet: Resilient carpet thresholds installation.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  - 2. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
  - 3. ASTM E662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
  - 4. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile.
  - 5. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing.
  - 6. ASTM F1861 - Standard Specification for Resilient Wall Base.
- B. National Fire Protection Association:
  - 1. NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate seaming plan, custom patterns and inlay designs.
- C. Product Data: Submit data describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- D. Samples:
  - 1. Submit duplicate sets of manufacturer's complete set of color samples for initial selection.

### **1.4 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

### **1.5 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

### **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Protect roll materials from damage by storing on end.

### **1.7 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Product Requirements.
- B. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- C. Store materials for not less than 48 hours prior to installation in area of installation at temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

**1.8 EXTRA MATERIALS**

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
- B. Furnish 100 sq. ft. of field color for each flooring material type.

**PART 2 PRODUCTS**

**2.1 RESILIENT BASE**

- A. Manufacturers:
  - 1. Armstrong World Industries, Inc.
  - 2. Johnsonite
  - 3. Substitutions: Section 01600 - Product Requirements.
- B. Components:
  - 1. WB-1 Armstrong 4" height rubber wall base, .080 inch thickness, continuous roll length, pre-molded internal corners, external corners, end stops. Color indicated on finish schedule.

**2.2 ACCESSORIES**

- A. Subfloor Filler: Premix latex; type recommended by adhesive material manufacturer.
- B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.
- C. Moldings and Edge Strips: Premolded rubber trim manufactured by Johnsonite or approved. Type and color as selected.
- D. Sheet Flooring Vinyl Welding Rod: Solid vinyl bead produced by manufacturer of vinyl flooring for heat welding seams, in color matching with field color.
- E. Feature Strips: Of same material as flooring, as detailed
- F. Sealer and Wax: Types recommended by flooring manufacturer.

**PART 3 EXECUTION**

**3.1 EXAMINATION**

- A. Section 01310 - Project Management and Coordination: Verification of existing conditions before starting Work.
- B. Verify concrete floors are dry to maximum moisture content as recommended by manufacturer, and exhibit negative alkalinity, carbonization, and dusting.
- C. Verify floor and lower wall surfaces are free of substances capable of impairing adhesion of new adhesive and finish materials.

**3.2 PREPARATION**

- A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- B. Prohibit traffic until filler is cured.
- C. Clean substrate.
- D. Apply primer as required to prevent "bleed-thru" or interference with adhesion by substances cannot be removed.

**3.4 INSTALLATION - BASE**

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 48 inches between joints.
- B. Miter internal corners. At external corners 'V' cut back of base strip to 2/3 of its thickness and fold. At exposed ends, use pre-molded units.
- C. Install base on solid backing. Bond tightly to wall and floor surfaces.
- D. Install base toe on continuous bead of sealant in toilets, and all locations where rubber base rests on concrete flooring.
- E. Scribe and fit to door frames and other interruptions.

**3.5 CLEANING**

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Remove excess adhesive from floor, base, and wall surfaces without damage.
- C. Clean, seal, and maintain resilient flooring products.

**3.6 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Section 01700 - Execution Requirements: Protecting installed construction.
- B. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes carpet tile and accessories.
- B. Related Sections:
  - 1. Section 09650 – Resilient Flooring.

**1.2 REFERENCES**

- A. Carpet and Rug Institute:
  - 1. CRI 104 - Standard for Installation of Commercial Carpet.
- B. Consumer Products Safety Commission:
  - 1. CPSC 16 CFR 1630 - Standard for the Surface Flammability of Carpets and Rugs.
- C. National Fire Protection Association:
  - 1. NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.

**1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Samples:
  - 1. Submit two carpet tiles illustrating color and pattern design for each carpet color selected. Matching roll carpet samples.
- D. Manufacturer's Installation Instructions: Submit special procedures, perimeter conditions and requiring special attention.

**1.4 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

**1.5 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.
- B. Installer: Company specializing in performing work of this section with minimum three years documented experience.
  - 1. FCIB or IFCI certified carpet installers.

**1.6 PRE-INSTALLATION MEETINGS**

- A. Section 01300 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

**1.7 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01600 - Product Requirements.
- B. Store materials in area of installation for 48 hours prior to installation.

**1.8 EXTRA MATERIALS**

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
- B. Supply one carton of carpet tiles of each color and pattern selected.

**PART 2 PRODUCTS****2.1 CARPET TILE**

- A. Manufacturers:
  - 1. matsinc, 1.800.628.7462
  - 2. Substitutions: Section 01600 - Product Requirements.

**2.2 COMPONENTS**

- A. Carpet Tile:
  - 1. C1: Connexus Matting, 'Super Nop 52 Tile' , 100% Asota solution dyed UV stabilized polypropylene fiber carpet tile. Color by Owner - provide samples. Installation - Parquet Pattern.

**2.3 ACCESSORIES**

- A. Sub-Floor Filler: Type recommended by flooring material manufacturer.
- B. Contact Adhesive: Recommended by carpet manufacturer.

**PART 3 EXECUTION****3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify floor surfaces are smooth and flat and are ready to receive work.

**3.2 PREPARATION**

- A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.
- B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.
- C. Clean substrate.

**3.3 INSTALLATION**

- A. Install carpet tile in accordance with CRI 104.
- B. Do not mix carpet from different cartons unless from same dye lot.
- C. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- D. Locate change of color or pattern between rooms under door centerline.
- E. Fully adhere carpet tile to substrate.

**3.4 CLEANING**

- A. Section 01700 - Execution Requirements: Final cleaning.
- B. Remove excess adhesive from floor, base, and wall surfaces without damage.
- C. Clean and vacuum carpet surfaces.

END OF SECTION

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes plastic laminate toilet compartments.
- B. Related Sections:
  - 1. Section 05500 - Metal Fabrications: Concealed steel support members.
  - 2. Section 10800 - Toilet, Bath, and Laundry Accessories.

**1.2 REFERENCES**

- A. American National Standards Institute:
  - 1. ANSI A208.1 - Mat-Formed Wood Particleboard.
- B. APA-The Engineered Wood Association:
  - 1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.
- C. ASTM International:
  - 1. ASTM A666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- D. National Electrical Manufacturers Association:
  - 1. NEMA LD 3 - High Pressure Decorative Laminates.

**1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall and floor supports, door swings.
- C. Product Data: Submit data on panel construction, hardware, and accessories.
- D. Samples: Submit two 3 x 3 inch in size illustrating panel finish, color, and sheen.
- E. Manufacturer's Installation Instructions: Submit special procedures, and perimeter conditions requiring special attention.

**1.4 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with placement of support framing and anchors in wall.

**PART 2 PRODUCTS****2.1 PLASTIC LAMINATE TOILET COMPARTMENTS**

- A. Manufacturers:
  - 1. Capital Partitions Inc.
  - 2. Comtec Industries.
  - 3. General Partitions Manufacturing Corp.
  - 4. Global Steel Products Corp.
  - 5. Substitutions: Refer to Section 01600 - Material and Equipment.
- B. Product Description: Floor mounted overhead braced. High density polymer (HDP) units.

**2.2 COMPONENTS**

- A. Toilet Compartments: Solid molded plastic panels, doors, and pilasters. Floor-mounted head rail -braced.
  - 1. Color: To be selected by Owner from Manufacturer's Standard colors.
- B. Adhesive: Manufacturer's standard type.



- C. Door and Panel Dimensions:
  - 1. Thickness: 1 inch.
  - 2. Door Width: 24 inch.
  - 3. Accessible Door Width: 36 inch out-swinging where shown on plans.
  - 4. Height: 58 inch.
  - 5. Thickness of Pilasters: 1-1/4 inch.

### 2.3 ACCESSORIES

- A. Pilaster Shoe: Formed ASTM A666 Type 304 stainless steel with No. 4 finish, 3 inch high, concealing floor fastenings. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.
- B. Head Rails: Hollow stainless steel tube, 1 x 1-5/8 inch size, with anti-grip profiles and cast socket wall brackets.
- C. Brackets: Stainless steel.
- D. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.
  - 1. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.
- E. Hardware: Stainless steel:
  - 1. Pivot hinges, gravity type, adjustable for door close positioning; two for each door.
  - 2. Nylon bearings.
  - 3. Thumb turn door latch with exterior emergency access feature.
  - 4. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
  - 5. Coat hook with rubber bumper; one for each compartment, mounted on door.
  - 6. Furnish door pull for outswinging doors.
  - 7. Furnish metal heat sink at bottom of doors and partitions.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify field measurements are as indicated on shop drawings.
- C. Verify correct spacing of plumbing fixtures.
- D. Verify correct location of built-in framing, anchorage, and bracing.

### 3.2 INSTALLATION

- A. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.
- B. Attach panel brackets securely to walls using anchor devices.
- C. Attach panels and pilasters to brackets. [Locate head rail joints at pilaster center lines.]
- D. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

### 3.3 ERECTION TOLERANCES

- A. Section 01400 - Quality Requirements: Tolerances.

- B. Maximum Variation From Indicated Position: 1/4 inch.
- C. Maximum Variation From Plumb: 1/8 inch.

### **3.4 ADJUSTING**

- A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- C. Adjust hinges to position doors in [partially opened] [fully closed] position when unlatched. Return out-swinging doors to closed position.
- D. Adjust adjacent components for consistency of line or plane.

END OF SECTION

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section includes toilet accessories; Rough-in frames and attachment hardware.
- B. Related Sections:
  - 1. Section 06100 - Rough Carpentry: Placement of backing.

### **1.2 REFERENCES**

- A. American Society for Testing and Materials:
  - 1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - 2. ASTM A269 - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
  - 3. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 4. ASTM A666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
  - 5. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
  - 6. ASTM C1036 - Standard Specification for Flat Glass.
- B. Federal Specification Unit:
  - 1. FS A-A-3002 - Mirrors, Glass.

### **1.3 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, attachment methods.
- C. Manufacturer's Installation Instructions: Submit special procedures and conditions requiring special attention.

### **1.4 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate the Work with placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

## **PART 2 PRODUCTS**

### **2.1 TOILET AND BATH ACCESSORIES**

- A. Manufacturers:
  - 1. Bobrick Washroom Accessories.
  - 2. Bradley Corp.
  - 3. McKinney.
  - 4. Substitutions: Section 01600 - Product Requirement.

### **2.2 COMPONENTS**

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
  - 1. Grind welded joints smooth.

- 2. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Stainless Steel Tubing: ASTM A269, stainless steel.
- D. Galvanized Sheet Steel: ASTM A653, G90 zinc coating.
- E. Mirror Glass: Float glass, Type I, Class 1, Quality q2 (ASTM C 1036), with silvering, copper coating, and suitable protective organic coating to copper backing in accordance with FS A-A-3002.
- F. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof, security type.
- G. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

### 2.3 TOILET ACCESSORIES

- A. Bobrick products listed. Equal products of Bradley and McKinney are approved.  
Accessories:
  - 1. (TPDS) Toilet paper dispenser By SOU
  - 2. (SNDS) Surface mounted sanitary napkin disposal B-270
  - 3. (M-1) Stainless steel channel frame mirror, 24" x 36" B-165
  - 4. (GB-1) Stainless steel grab bar set, lengths noted B-6806
  - 5. (SD) Soap Dispenser By SOU
  - 6. (CR) Extra Heavy Duty Stainless Steel Curtain Rod, Lengths as noted B-6047
  - 7. (C) Matte, white, vinyl curtain w/ nickel plated brass grommets. 204-2

### 2.4 FACTORY FINISHING

- A. Stainless Steel: No. 4 satin brushed finish, unless otherwise noted.
- B. Galvanizing for Items other than Sheet: ASTM A123/A123M to 1.25 oz/sq yd. Galvanize ferrous metal and fastening devices.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify exact location of accessories for installation.
- C. Verify field measurements are as indicated on product data.
- D. See related sections for installation of blocking, reinforcing plates and concealed anchors in walls.

### 3.2 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

### 3.3 INSTALLATION

- A. Install plumb and level, securely and rigidly anchored to substrate.
- B. Mounting Heights and Locations: As required by accessibility regulations As indicated on Drawings.

END OF SECTION