



**PROJECT MANUAL:  
BID REQUEST / BID DOCUMENTS**

*Justice Center  
January 25, 2019*

***Specifications & Proposal Package***

City of Harrisburg  
120 Smith Street  
P.O. Box 378  
Harrisburg, Oregon 97446

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**Bid Opening: March 6, 2019, 2:00 p.m.**

# PROJECT MANUAL

FOR

CITY OF HARRISBURG, OR

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## JUSTICE CENTER REMODEL

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RETURN BY:

2:00 PM, March 6<sup>TH</sup>, 2019

TO

CITY OF HARRISBURG - CITY HALL  
120 SMITH STREET  
P.O. BOX 378 HARRISBURG, OREGON 97446

# CITY OF HARRISBURG, OREGON

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## SECTION 010

### CITY OF HARRISBURG INVITATION FOR BIDS

NOTICE IS HEREBY GIVEN THAT Sealed bids for **Justice Center Remodel**, City of Harrisburg, Oregon, shall be addressed to the City Recorder, City Hall, P.O. Box 378, 120 Smith Street, Harrisburg Oregon 97446 and will be received at the City Hall of the City of Harrisburg, Oregon, 120 Smith Street, Harrisburg, OR 97446 Acceptance of bids will be officially closed at **2:00 pm** Pacific Time, **March 6<sup>th</sup>, 2019**, and immediately thereafter the bids will be publicly opened and read in the City Hall Council Chambers. The bid proposal shall be submitted under sealed cover and marked with the Contractor's name and project name.

The project involves interior and limited exterior remodel of the existing Justice Center / Library Building located at 354 Smith Street in the City of Harrisburg, Linn County, Oregon. The improvements limited demolition and construction of new foundation elements, interior walls, ceilings, and associated plumbing, electrical, and mechanical work. The project also includes the construction of a new adjoining wood-framed structure on a conventional concrete foundation. The Engineer's estimate for this Project is between \$320,000 and \$345,000.

All proposals must be submitted on the regular forms furnished. The award will be made to the lowest qualified bidder who will be asked to furnish a 100% Corporate Surety Performance Bond for the faithful performance of the contract. The Project Manual including; Plans, Specifications, Agreement, and Bid Forms are available at the City of Harrisburg, City Hall, 120 Smith Street, Harrisburg, OR 97446. Contractors may obtain a paper copy of the Project Manual, beginning **February 6<sup>th</sup>, 2019**, for a non-refundable fee of \$40.00. The Project Manual, Addenda, and Plan Holders List will also be posted on the city's website <http://www.ci.harrisburg.or.us> where they can be viewed and printed. All prospective bidders must be added to the Plan Holders List by sending an e-mail with company contact information to [emilyp@branchengineering.com](mailto:emilyp@branchengineering.com) with the project title in the subject line. Prospective bidders must be on the Plan Holders List for their bid to be considered. Bidders are responsible for checking the website for addenda and changes prior to submitting bid, however notification of Addenda issuance will be issued via e-mail to the addresses listed on the Plan Holders List. Bid results will be posted on the city's website when available. There is a non-mandatory **Pre-Bid and site visit on February 19, 2019**; please meet on site at **10:00 AM**.

Questions, clarifications, proposals for specification changes or requests to approve an alternate product shall be received in writing a minimum of ten days prior to bid receipt date. Send questions or requests via email to Rick Hernandez, PE, SE, at [rickh@branchengineering.com](mailto:rickh@branchengineering.com).

**Qualifications:** Bidders must be an established business (minimum three years) doing like projects. No bid for a construction contract shall be received or considered by the City of Harrisburg unless the bidder is Licensed with the Construction Contractors Board and/or by the State Landscape Contractors Board as required by ORS 671.530 **and has a current Public Works Bond of \$30,000.00 prior to starting Work on the Project.**

This Project is for public improvement and therefore subject to ORS 279C.800 thru 279C.870 Oregon State prevailing wage requirements. No bid will be received or considered by the City of Harrisburg unless the bid is signed on the City of Harrisburg format that includes/contains a statement by the bidder that the provisions of ORS 279C.840 are to be complied with.

If this project is over \$100,000, a subcontractor listing is required and can be submitted with the bid. If the subcontractor listing is not submitted with the bid, it must be received within two (2) hours after the bid closing time and date at the City of Harrisburg, 120 Smith Street, Harrisburg, OR 97446 to the attention of City Recorder, facsimile is acceptable at 541-995-9244. Failure to supply a correct subcontractor listing may result in bid rejection.

**Questions, clarifications, proposals for specification changes or requests to approve an alternate product shall be received in writing a minimum of ten (10) days prior to the bid receipt date. Protests of bid results must be in writing from a bidder in legal standing, and must be made within five (5) days of the posted award date in accordance with OAR Title 137, Division 49.**

The City may reject any bid not in compliance with all prescribed public bidding procedures and requirements, and may, for good cause, reject all bids upon a finding by the City of Harrisburg if it is in the public interest to do so in accordance to **ORS 279C.395**.

Published  
Date: February 6, 2019  
By Brian Latta, City Administrator

**END OF SECTION**

**SECTION 020**  
**JUSTICE CENTER REMODEL**  
**SCOPE OF WORK**

**Requirements of Project:**

The project involves interior and limited exterior remodel of the existing Justice Center / Library Building located at 354 Smith Street in the City of Harrisburg, Linn County, Oregon. The improvements limited demolition and construction of new foundation elements, interior walls, ceilings, and associated plumbing, electrical, and mechanical work. The Engineer's estimate for this Project is between \$320,000 and \$345,000.

**Location of Project:**

The project is located at 354 Smith Street in the City of Harrisburg, Linn County, Oregon.

**Purpose of Project:**

The purpose of the project is to update and improve the interior of the existing Justice Center/Library building to better suit the needs of the City of Harrisburg.

**Project Engineer:**

All questions should be directed to:

Rick Hernandez, P.E., S.E. Branch Engineering 541-746-0637  
rickh@branchengineering.com

**City Schedule:**

Pre-Bid/Site Visit	<b>10:00 AM, FEBRUARY 19, 2019</b>
Bids Closed / Opened & Read:	<b>2:00 PM, MARCH 6, 2019</b>
<b>120 SMITH STREET, HARRISBURG, OR 97446</b>	
Projected Award Date:	<b>MARCH 12, 2019</b>
Projected Start Date:	<b>MARCH 18, 2019</b>
Substantial Completion Date:	<b>JUNE 7, 2019</b>
Final Completion Date:	<b>JUNE 21, 2019</b>

**SECTION 100**

**INSTRUCTIONS TO BIDDERS**

**DOCUMENT HOLDER INFORMATION**



**Section 100**  
**INSTRUCTIONS TO BIDDERS**

**1. BID FORMS**

These Contract Documents include a complete set of bidding and contract forms that are to be filled out and executed.

**2. EXPLANATION TO BIDDERS**

Any explanation regarding the meaning or interpretation of contract drawings, specifications or other Contract Documents must be requested in writing, with sufficient allowance of time for receipt of reply before the time of bid opening. Any such explanations or interpretations shall be made in the form of addenda to the documents and shall be furnished to all bidders, who shall submit all addenda with their bids. Oral explanations and interpretations made prior to the bid opening shall not be binding.

**3. BIDDERS' UNDERSTANDING**

Bidders should visit the work site to ascertain by inspection, pertinent local conditions such as location, character and accessibility of the site, availability of facilities, location and character of existing work within or adjacent thereto, labor conditions, etc. The City of Harrisburg, hereinafter called City, shall make available to all prospective bidders, previous to the receipt of bids, information that they may have as to subsoil conditions and surface topography at the work site. Such information shall be given, however, as the best factual information available without the assumption of responsibility for its accuracy or for any conclusions that the Contractor might draw therefrom.

**4. BID REQUIREMENTS – DOCUMENTS THAT MUST BE SUBMITTED WITH THE BID PROPOSAL; And First-Tier Subcontractor Disclosure Form Within Two Hours.**

- Lump Sum of Bid Items – This must be completed and signed.
- Bid Bond – A signed, sealed and dated bid bond in the amount of no less than 5% of the total bid price.
- Addenda Certifications – Signed by Contractor with number and date of addenda noted.
- Contract Certification – Signed by Contractor.
- ORS Statutory (ORS) Certifications – Signed by Contractor including CCB Number.
- Project Reference Form – Filled out and signed by Contractor
- Within two (2) hours of the bid closing time and date, the First-Tier Subcontractor Disclosure Form must be submitted if required – See bid package documents.

**5. PREPARATION OF BIDS**

- Bids shall be submitted as required in the Invitation for Bids.
- Bids shall be submitted on the forms provided or copies thereof, and must be signed by the bidder or his authorized representative. Any corrections to entries made on bid forms should be initialed by the person signing the bid.
- Bidders must quote on all items appearing on the bid forms, unless specific directions in the advertisement, on the bid form, or in the special specification allowing for partial bids. Failure to quote on all items may disqualify the bid. When quotations on all items are not required, bidders shall insert the words "No Bid" where appropriate.
- Alternative bids will not be considered unless specifically called for.
- Telephone Facsimile (FAX) bids will be accepted on the following conditions:
  - The time factor does not allow any other means.
  - The bid is sent to a third party (not the City), sealed and presented to the City.
  - The signature is notarized.
  - The original is mailed to the City as soon as possible.

**6. SUBMISSION OF BIDS**

Bids must be submitted as directed in the Invitation for Bids.

**7. RECEIPT AND OPENING OF BIDS**

Bids shall be submitted prior to the time fixed in the Invitation for Bids. Bids received after the time so indicated shall be returned unopened.

**8. WITHDRAWAL OF BIDS**

Bids may be withdrawn upon written or telegraphic request of the Bidder at any time prior to opening.

**9. PRESENCE OF BIDDERS AT OPENING**

At the time and place fixed for opening bids, the contents of all bids will be made public for the information of all bidders and other interested parties, who may be present in person or by representative.

**10. BIDDERS INTERESTED IN MORE THAN ONE BID**

If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders, or from submitting a direct bid on his own behalf.

**11. AWARD OF CONTRACT FOR CONSTRUCTION**

- The low bidder(s) will be determined on the basis of the lowest lump sum or as specified in the Contract Document.
- The Contract for Construction shall be awarded to the lowest responsible Bidder(s) as soon as practicable after the bid opening, subject to the reservations of paragraph 12 herein. The City reserves the right to waive any informality in bids at City's discretion.
- The City reserves the right to wait until the protest period (5 days) has elapsed before entering into a written contract. In the event a protest is made, the City will not enter into a written contract until the protest is resolved.
- Notice of Award, announcement of apparent low bidder is not a binding contract. Only a signed written contract will be binding to the City.
- Notwithstanding OAR 137-049-0450, an award protest must be filed with the City within five (5) days of the notice of intent to award.

**12. REJECTION OF BIDS**

The City reserves the right to reject any and all bids.

**13. CONTRACT, BONDS, AND INSURANCE**

- The Bidder to whom award is made shall enter into a written Contract for Construction with the City within the time specified in the Contractor's Proposal.
- Performance Bond shall be furnished at the time of signing the Contract for Construction.
- Payment Bond shall be furnished at the time of signing the Contract for Construction.
- The insurance required by this Contract shall be written for not less than any limits of liability specified in the Contract Documents or required by law, whichever is greater.

**14. WAGES AND SALARIES:** Attention of bidders is particularly called to the requirements concerning the payment of not less than the prevailing wage and salary rates specified in the Contract Documents and the conditions of employment with respect to certain categories and classifications of employees.

**15. SUBCONTRACTORS**

Bidders are required to disclose information about certain first-tier subcontractors in accordance with ORS 279C.370 – See also Contract bid documents which includes form required.

**16. CHANGES TO PLANS, SPECIFICATIONS, OR QUANTITIES BEFORE OPENING BIDS**

The City of Harrisburg reserves the right to issue Addenda making changes or corrections to the Plans, Specifications, or quantities before the opening of the bids.

**SECTION 110**  
**DOCUMENT HOLDER INFORMATION**

**Pricing**

Pricing will be firm and irrevocable for Sixty (60) days after the bid opening.

**Unit Billing**

Unit prices for materials/equipment are considered furnished and installed prices. Billing reflecting material only will not be accepted. Invoices/billings will be processed only for those units (or percentages of) that are installed.

**Federal Mandate (DOT)**

As of January 1, 1996, all Contractors whose employees are required to have a Commercial Driver's License (CDL) must comply with Department of Transportation Controlled Substance and Alcohol Program and testing rules.

**Oregon Public Contracting Statutes and Rules**

Bids and the Contract are governed by the Oregon Public Contracting Code (ORS Titles 279A, 279B, and 279C as applicable) and Oregon Public Contracting Code Model Rules (OAR Title 137 as applicable). See the Contract Documents for specific requirements and obligations.

**Copies of Plans & Specification**

Any additional copies of the Contract Documents or Plans to the contractor will be at the Contractor's expense. Additional copies of Contract Documents or Plans may be obtained on request by paying the actual cost of reproducing the Contract Documents or Plans.

**Brand Name Specification**

Brand name specification: if a brand name is given, it is only intended to define a quality and type desired by the City and is not intended to eliminate any competition or like equipment. The City, however, reserves the right to approve the exceptions taken to the specifications.

**Section 200**  
**BID DOCUMENT PACKAGE**

Section 210  
**REQUIRED BID DOCUMENTS**

TO BE CONSIDERED RESPONSIVE, THE FOLLOWING MUST BE PRESENTED TO CITY OF HARRISBURG AT THE SPECIFIED PLACE PRIOR TO THE BID TIME AND DATE – EXCEPT AS NOTED FOR THE FIRST-TIER SUBCONTRACTOR DISCLOSURE:

- **LUMP SUM OF BID ITEMS** – MUST BE COMPLETE – MUST BE SIGNED AND DATED
- **BID BOND** – A SIGNED, SEALED AND DATED BID BOND IN THE AMOUNT OF NO LESS THAN 5% OF THE TOTAL BID PRICE
- **THE ADDENDA CERTIFICATION FORM** – MUST BE SIGNED, DATED AND ALL ADDENDA'S NOTED.
- **THE CONTRACT CERTIFICATION FORM** – MUST BE SIGNED AND DATED
- **THE OREGON STATUTORY (ORS) CERTIFICATION FORM** – MUST BE SIGNED, DATED AND THE CONTRACTOR CCB REGISTER NUMBER SHOWN
- **THE FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM** THIS MAY BE FURNISHED WITH THE BID IN THE SAME ENVELOPE, IN A SEPARATE ENVELOPE OR MAY BE FAXED HOWEVER PRESENTED, THE CITY MUST HAVE THE SUBCONTRACTOR LISTING WITHIN TWO (2) HOURS OF THE SPECIFIED BID CLOSING TIME.
- **PROJECT REFERENCES FORM** – MUST HAVE AT LEAST THREE REFERENCES OF SIMILAR TYPE AND SIZE PROJECTS SUCCESSFULLY COMPLETED – MUST BE SIGNED AND DATED

**Section 220**

**LUMP SUM OF BID ITEMS - City of Harrisburg: Justice Center Remodel**

Total Amount of Bid \$ \_\_\_\_\_

Total Bid price written out in words \_\_\_\_\_

**Note: All Price Bids should be considered as "Furnished and Installed".  
Billing is to be as complete units and partial bills will not be paid. "Construction" means full scope of  
Work except furnishing and installation of furniture and appliances.**

**To Be Considered Responsive, the following must be signed and completed by your firm:**

We hereby certify to do the work as specified and at the price as quoted in conformance to all the City, State and Federal Regulations that are applicable and will indemnify the 'City of Harrisburg' against all claims arising out of any actions caused by our company during the performance of this contract.

We hereby certify that we will comply with the provisions of ORS279C.840 (BOLI Wage Requirements).

Company \_\_\_\_\_

Address \_\_\_\_\_

By \_\_\_\_\_  
(Signature of Authorized Official)

Date \_\_\_\_\_

By \_\_\_\_\_  
(Type or Print Name)

Phone \_\_\_\_\_

Federal I.D. # \_\_\_\_\_

Fax \_\_\_\_\_

Surety Company (Performance Bond) \_\_\_\_\_

Contact at Surety \_\_\_\_\_ Phone \_\_\_\_\_

CCB# \_\_\_\_\_ No. Years Registered w/CCB \_\_\_\_\_

Are there any outstanding claims against your firm: Yes\_\_\_\_ No\_\_\_\_

**Protest of Contractor Selection/Contract Award must be made by Written Notice within Five (5) Days of the Posted Award Date in accordance with OAR 137-049-0450**

**All the prospective bidders will have specific line items to bid on and the award will be made on the lowest qualified bid on the total bid items. The City will reserve the right to add or delete items as the project goes forward.**

**1. Liquidated Damages: See General Conditions 110.9.00.**

**SECTION 230**  
**REQUIREMENTS FOR BID BOND – PLEASE USE YOUR OWN SURETY’S FORMAT**

**BID BOND FORMAT**

Herewith find a deposit in the form of a certified check, cashier’s check, cash, or bid bond in the amount of \$ \_\_\_\_\_ , an amount which is not less than five percent of the total bid.

**KNOW ALL MEN BY THESE PRESENTS:**

That we, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are held and firmly bound unto the City of Harrisburg, Oregon, as obligee, hereinafter called City, in the penal sum of \_\_\_\_\_ Dollars, for the payment of which the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

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

**SIGNED, SEALED AND DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_\_.**

Principal \_\_\_\_\_

Surety \_\_\_\_\_

Received return deposit in the sum of \$ \_\_\_\_\_  
\_\_\_\_\_ 20 \_\_\_\_\_



**SECTION 240 - ADDENDA CERTIFICATIONS/ MISTAKES IN BIDS**  
**THE SECTIONS FROM THE OREGON ATTORNEY GENERAL MODEL PUBLIC CONTRACT RULES**  
**ARE HEREIN MADE PART OF THE CONTRACT DOCUMENTS**

ADDENDA: We hereby certify that we did receive the following Addenda to these specifications:

# \_\_\_\_\_ dated: \_\_\_\_\_

# \_\_\_\_\_ dated: \_\_\_\_\_

# \_\_\_\_\_ dated: \_\_\_\_\_

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
DATE

**MISTAKES IN BIDS**

**General.**

Clarification or withdrawal of a bid because of an inadvertent, nonjudgmental mistake in the bid requires careful consideration to protect the integrity of the competitive bidding system, and to assure fairness. Except as provided in this rule, if the mistake is attributable to an error in judgment, the bid may not be corrected. Bid correction or withdrawal by reason of a nonjudgmental mistake is permissible but only to the extent it is not contrary to the interest of the public agency or the fair treatment of other bidders.

**Mistakes Discovered After Bid Closing but Before Award.**

This subsection prescribes procedures to be applied in situations where mistakes in bids are discovered after the time and date set for bid closing but before award.

• **Minor Informalities.**

Minor informalities are matters of form rather than substance that are evident from the bid documents, or are insignificant mistakes that can be waived or corrected promptly without prejudice to other bidders or the public agency; that is, the informality does not affect price, quantity, quality, delivery, or contractual conditions except in the case of informalities involving unit price. Examples include, but are not limited, to the failure of a bidder to:

- Return the number of signed bids or the number of other documents required by the bid documents;
- Sign the bid form in the designated block so long as a signature appears in the bid documents evidencing an intent to be bound;
- Acknowledge receipt of an addendum to the bid documents, but only if:
  - It is clear from the bid that the bidder received the addendum and intended to be bound by its terms; or
  - THE ADDENDUM INVOLVED DID NOT AFFECT PRICE, QUANTITY, QUALITY, OR DELIVERY.

• **Mistakes Where Intended Correct Bid is Evident.**

If the mistake and the intended correct bid are clearly evident on the face of the bid form, or can be substantiated from accompanying documents, the public agency may accept the bid. Examples of mistakes that may be clearly evident on the face of the bid form are typographical errors, errors in extending unit prices, transposition errors, and arithmetical errors. Mistakes that are clearly evident on the face of the bid form may also include instances in which the intended correct bid is made clearly evident by simple arithmetic calculations. For example, missing unit price may be established by dividing the total bid item by the quantity of units for that item, and a missing or incorrect total bid for an item may be established by multiplying the unit price by the quantity when those figures are available on the bid. For discrepancies between unit prices and extended prices, unit prices shall prevail.

• **Mistakes Where Intended Correct Bid is Not Evident.**

The public agency may not accept a bid in which a mistake is clearly evident on the face of the bid form but the intended correct bid is not clearly evident or cannot be substantiated from accompanying documents.

**OMISSIONS AND AMBIGUITIES ON THE BID SUBMISSION WILL BE CONSIDERED GROUNDS FOR REJECTION.**

**SECTION 250**  
**CONTRACT CERTIFICATIONS**  
**(Must be signed and included with Bid Proposal)**

We hereby certify that we have carefully examined the Contract Documents for the activity required by the specifications and will, if a trade contract, furnish all machines, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete the work in the manner, in the time, and according to the methods as specified in the Contract Documents.

We hereby certify that if our Proposal is accepted, we will within seven (7) calendar days after Contract award, sign the Contract and will, at that time, deliver to the City of Harrisburg the Performance and Payment Bond (if required).

**NON-COLLUSION AFFIDAVIT**

We hereby certify that the bid submitted is genuine and not a sham or collusive bid, or made in the interest or on behalf of any person not therein named; and we further certify that we have not directly or indirectly induced or solicited any bidder or suppliers to put in a sham bid, or any other person or corporation to refrain from bidding; and that we have not in any manner sought by collusion to secure an advantage over any other bidder or bidders.

We hereby agree to furnish the City of Harrisburg, before commencing the work under this Contract, the certificates of insurance, if specified, in these documents.

We hereby certify that we will represent and warrant all work done by our subcontractors and that the work will be done in a good workmanlike manner under our direct supervision. We will notify the City of Harrisburg, prior to any subcontract work being done, the name of the subcontractor or subcontractors to be used and the percentage of work that each subcontractor will perform.

CONTRACTOR \_\_\_\_\_  
(Authorized Official)

DATE \_\_\_\_\_

**SECTION 260**  
**OREGON STATUTORY (ORS) CERTIFICATIONS**  
**(MUST BE SIGNED AND INCLUDED WITH BID PROPOSAL)**

•**WE HEREBY CERTIFY** to comply with Title VI of the Civil Rights Act of 1964, with Section V of the Rehabilitation Act of 1973, and with all applicable requirements of federal and state civil rights and rehabilitation statues, rules and regulations. **WE CERTIFY** also that we shall comply with the Americans with Disabilities Act of 1990 (Pub L No. 101-336), ORS 659.425, and all regulations and administrative rules established pursuant to those laws. **WE CERTIFY** also to nondiscrimination against any minority, women or emerging small business enterprises in obtaining any required subcontracts.

•**WE HEREBY CERTIFY** that we will and that our subcontractors will, acknowledging that our employers will be subject employers under the Oregon Workers' Compensation Law, comply with ORS 656.017, which requires contractors to provide all workers with compensation coverage.

•**WE HEREBY CERTIFY** that we accept all the terms and conditions contained herein and in the event of a forthcoming contract containing these same terms and conditions we would agree without exception. Any exception to these terms and conditions will be made a minimum of five (5) days before the proposal deadline.

•Whereas, State and Federal law **prohibits discrimination** in employment on the basis of race, color, religion, sex, disability, familial status, or national origin, and whereas the City of Harrisburg supports and has set-forth a policy of equal employment opportunities for all, the following certification is required: **WE HEREBY CERTIFY**, in the performance of any contract issued from any proposal related to these documents, we will in all respects adhere to the City of Harrisburg policy of non-discrimination.

Contractor \_\_\_\_\_  
(Authorized Official)

Date \_\_\_\_\_

**EXCEPTIONS** to the above Certifications. The Contractor will cross out those items they cannot certify to and then list the reasons for the exception:

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**SECTION 270**

PRIME CONTRACTOR NAME \_\_\_\_\_

**FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM – PROJECTS OVER \$100,000.00  
(ORS 279C.370)**

Bidders are required to disclose information about certain first-tier subcontractors when the contract value for a Public Improvement is greater than \$100,000 (see ORS 279C.370). Specifically, when the contract amount of a first-tier subcontractor (**furnishing labor**) is greater than or equal to: (i) 5% of the project bid, but at least \$15,000, or (ii) \$350,000 regardless of the percentage, you must separately disclose the following information about that Subcontractor Listing within two (2) hours of bid closing:

- (1) The subcontractor’s name and address,
- (2) The subcontractor’s Construction Contractor Board registration number, if one is required,
- (3) Dollar amount of work.

If you will not be using any subcontractors that are subject to the above disclosure requirements, you are required to indicate “NONE” on the accompanying form.

**THE AGENCY MUST REJECT A BID IF THE BIDDER FAILS TO SUBMIT THE DISCLOSURE FORM WITH THIS INFORMATION BY THE STATED DEADLINE. THE BIDDER MAY SUBMIT THE DISCLOSURE FORM WITHIN THE BID PACKAGE, BY SEPARATE ENVELOPE OR BY FACSIMILE.**

**JUSTICE CENTER REMODEL**

Bid Closing Date: \_\_\_\_\_ Time (PM): \_\_\_\_

Contractor Name & Address	Work Type	CCB Number	Amount

If you will not be using any subcontractors that are subject to the above disclosure requirements, you are required to indicate “None” on the above contractor listing.

**THE CITY OF HARRISBURG MUST REJECT A BID IF THE BIDDER FAILS TO SUBMIT THIS DISCLOSURE FORM WITHIN TWO (2) HOURS OF THE BID CLOSING.**

**SECTION 280  
PROJECT REFERENCES**

To help the City determine whether Bidder is a responsible bidder pursuant to ORS 279C.375, answer the following questions. An incomplete form or insufficient information on the form may lead to a determination that the Bidder is not responsible for award of this contract.

1. List at least three completed projects of a similar nature. For each project, list the general scope of your work on the project and the nature of the project. Also, for each project, list the location of the project, the owner and the owner's contact information. For each project state whether the project was completed within time and within budget, and if not, explain why not.
2. Provide a list of at least three references that can speak to the Bidder's level of integrity. References from government agencies are preferred.
3. List projects in the table below and attach additional sheets with supplemental information as necessary.

NAME OF PROJECT/ LOCATION	CONTRACT AMOUNT	NAME OF OWNERS CONTACT	PHONE NUMBER OF CONTACT	NOTES
	\$			
	\$			
	\$			
	\$			

CONTRACTOR \_\_\_\_\_

DATE \_\_\_\_\_

**Section 300**  
**SAMPLE CONTRACT**

**TERMS & CONDITIONS APPLICABLE TO THIS PROJECT**

**Section 310- Sample Contract**

**CITY OF HARRISBURG  
PUBLIC IMPROVEMENT CONTRACT**

**PROJECT: Justice Center Remodel**

This Contract is between the City of Harrisburg, an Oregon Municipal Corporation (“City”) and \_\_\_\_\_ (“Contractor”).

**Recital**

City of Harrisburg selected a contractor to perform work for the City by a competitive bid process. Contractor submitted the lowest qualified bid for the Project.

**Contractor Information**

Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_ Contact: \_\_\_\_\_ E-Mail: \_\_\_\_\_  
CCB No.: \_\_\_\_\_ Fed ID (Tax) No. \_\_\_\_\_

**TERMS & CONDITIONS OF CONTRACT**

**TERM – DURATION OF CONTRACT**

This Contract shall be effective when signed by both parties and Contractor has submitted the required certificates of insurance and performance and payment bonds. It shall remain in effect until the work on the Project has been completed, the improvement accepted by the City, and the warranty period has expired. The expiration of the term does not affect any right that arose prior to expiration, and terms that by their nature survive expiration shall remain in effect after expiration.

- Work shall commence as stated in the notice to proceed from City to Contractor
- Work shall be substantially complete within \_\_Working Days and totally complete within \_\_Working Days.
- Work shall be substantially complete by June 7, 2019 and totally complete by June 21, 2019.

**SCOPE OF WORK**

Contractor shall construct **Justice Center Remodel** (the “Project”) in the City of Harrisburg, Oregon. The Project is located at 354 Smith Street. The Project is described in more detail in the attached Contractor’s Proposal “Exhibit A” and as detailed in the City’s specifications and drawings for this Project. Contractor hereby agrees to furnish all of the materials, labor, water, tools, equipment, light, power, transportation, and other work needed to construct the Project. Collectively all documents herein, plans, referenced laws, statutes, codes, procedures, material specifications, and schedules are applicable to the scope of Work.

## **PAYMENT**

City shall pay Contractor according to the schedules and unit prices as quoted by Contractor "Exhibit A". The maximum total payment under this Contract without approved written change orders is \$\_\_\_\_\_.

### **Application for Payment**

Contractor shall invoice the City monthly for work performed, based on an estimate of the amount of work completed and the value of the completed work. Contractor shall direct the application for payment or invoice to Branch Engineering, 310 Fifth St, Springfield OR 97477 Attn: Damien Gilbert, PE. City shall make progress payment equal to the value of the completed work, less amounts previously paid, less retainage of five percent, less any deduction for claims and damages paid by the City of Harrisburg due to acts or omissions of the Contractor and for which he/she is liable under this Contract within 15 days of receipt of the invoice and the prevailing wage certificates certifying that he/she has paid not less than the prevailing rate of wages as required by ORS 279C.840. The form/application for payment shall be acceptable to the City of Harrisburg.

### **Application Free of Encumbrances**

Contractor warrants and guarantees that all work, materials and equipment covered by any application for payment, will pass to City of Harrisburg at the time of payment free and clear of liens, claims, security interests and encumbrances.

### **Engineer Review & Approval of Application for Payment**

City Engineer will, after receipt of each application for payment, either indicate in writing his/her approval of payment and present the application to the City of Harrisburg, or return the application to Contractor indicating in writing his/her reasons for refusing to approve payment. In the latter case, Contractor may make the necessary corrections and resubmit for application.

### **Payment on Estimated Quantities**

Nothing contained in this contract shall be construed to affect the right, hereby reserved, to reject the whole or any part of the aforesaid work should such work be later found not to comply with any of the provisions of this Contract document. All estimated quantities of work for which progress payments have been made are subject to review and correction on the final estimate. Acceptance by the Contractor of progress payments based on periodic estimates of quantities of work shall not, in any way, constitute acceptance of the estimated quantities used as the basis for computing the amounts of the progress payments.

### **Final Payment**

Final payment shall be made in accordance with Section 115.5.00 of the General Conditions.

## **COMPLIANCE WITH LAW**

Contractor shall comply with applicable federal, state and local laws, ordinances, and regulation. When multiple standards apply, Contractor shall comply with the more stringent standard. Contractor shall comply with Title VI of the Civil Rights Act of 1964, with Section V of the Rehabilitation Act of 1973, and will all applicable requirements of federal, state and City civil rights and rehabilitation statutes, ordinances, rules and regulations. Contractor also shall comply with the Americans with Disabilities Act of 1990 (Pub L No. 101-336), ORS 659.425, and all regulations and administrative rules established pursuant to those laws. Contractor agrees to comply with ADA in its employment practices, and that it shall perform its contractual obligations consistently with ADA requirements and regulations, state law, and applicable regulations.



## **ENVIRONMENTAL**

Contractor shall comply with federal, state and local agencies ordinances, rules and regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the performance of the Contract. The City reserves the right if environmental requirements (either new or existing ordinances) must be met after the award of the Contract, City, in accordance with ORS 279C.525, may (a) Terminate the Contract; (b) Complete the work itself; (c) Use non-City forces already under contract with the City; (d) Require that the underlying property owner be responsible for cleanup; (e) Solicit bids for a new Contractor; and (f) Issue the awarded Contractor a change order setting forth the additional work that must be undertaken. In addition, (a) City must make known environmental conditions at the construction site that may require Contractor to comply with environmental ordinances in their bid documents; (b) If not known at the time of award, Contractor shall immediately give notice of the discovered environmental condition to the City; (c) If an environmental emergency exists, City & Contractor shall follow the rules (4), (5), (6), (7) & (8) under ORS 279C.525. If the City chooses to terminate the contract under this subsection, Contractor, if no negligence or omission on his/her part, shall be entitled to all costs and expenses incurred to the date of termination, including overhead and reasonable profits, on the percentage of work completed. If City causes work to be done by another entity, Contractor may not be held liable for actions or omissions of the other entity.

## **OREGON STATE PUBLIC CONTRACT PROVISIONS**

### **Contractor Shall:**

- Make payment promptly, as due to all persons supplying to the contractor labor or material for the performance of the work provided for the Contract.
- Pay all contributions or amounts due the Industrial Accident Fund from the Contractor or Subcontractor incurred in the Contract.
- Not permit any lien or claim to be filed or prosecuted against the City.
- Pay to the Department of Revenue all sums withheld from employees under ORS 316.167.
- Demonstrate that an employee drug testing program is in place. City has the right to audit and/or monitor the program. On request by the City, Contractor shall furnish a copy of the employee drug-testing program.
- Salvage or recycle construction and demolition debris, if feasible and cost-effective.

### **Prompt Payment/Contractor Refusal to Make Payment:**

- If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a Subcontractor by any person in connection with the public improvement contract as the claim becomes due, the City may pay the claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due the Contractor by reason of the contract.
- If Contractor or first-tier Subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this contract within 30 days after receipt of payment from the City (or in a case of Subcontractor, from Contractor), Contractor or first-tier Subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580 (4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to the Contractor or first-tier Subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date when payment

was received from the contracting agency or from the Contractor, but the rate of interest may not exceed 30 percent. The amount of interest may not be waived.

- If Contractor or a Subcontractor fails, neglects or refuses to make payment to a person furnishing labor or material in connection with, the person may file a complaint with the Construction Contractor Board (CCB), unless payment is subject to a good faith dispute as defined in ORS 279C.580.
- The payment of a claim in the manner authorized in this section does not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

**Hours of Labor – Posting Hours of Labor:**

- For work under this contract, a person may not be employed for more than 10 hours in any one day, or 40 hours of work in any one week, except in cases of necessity, emergency or when the public policy absolutely requires it, and in those cases, the employee shall be paid at least time and a half pay:
  - a. For all overtime in excess of eight hours in any one day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; and
  - b. For all overtime in excess of 10 hours in any one day or 40 hours in any one week when the work week is four (4) consecutive days, Monday through Friday; and
  - c. For all overtime in excess of 10 hours in any one day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and
  - d. For all work performed on Saturday and on any legal holiday specified in ORS 279C.540.
- Contractor is not required to pay overtime if the request for overtime pay is not filed within 30 days of completion of the Contract if Contractor has posted and maintained in place a circular with the information contained in ORS 279C.545 as required by ORS 279C.545(1).
- Contractors and Subcontractors must give notice in writing to employees who perform work under this contract, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.

**Medical Coverage to Employees:**

- Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care services or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums that Contractor agrees to pay for the services and all moneys and sums that the Contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services.

**Worker's 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 exempt under ORS 656.126. Contractor shall insure that each of its Subcontractors comply with these requirements.

**Recycle Materials:**

- Contractor will utilize where applicable, recycled materials if (a) The recycled product is available; (b) The recycled product meets applicable standards; (c) The recycled product can be substituted for a comparable non-recycled product; and (d) The recycled product's cost do not exceed the costs of non-recycled products by more than five percent (5%).

**Obligation to Pay Subcontractor & Suppliers within 10 Days:**

- Contractor shall include in each first-tier subcontract, including contracts with material suppliers, a clause that obligates Contractor to pay the first-tier Subcontractor for satisfactory performance under its subcontract within 10 days out of the amounts paid to Contractor by City under this contract, and if payment is not made within 30 days after receipt of payment from City, to pay an interest penalty as specified in ORS 279C.515(2) to the first-tier Subcontractor. The interest penalty does not apply if the only reason the delay in payment is due to a delay in payment by City to Contractor. Contractor shall include in each of Contractor's subcontracts, a provision requiring the first-tier Subcontractor to include a similar payment and interest penalty clause and shall require Subcontractors to include similar clauses with each lower-tier Subcontractor or supplier.

**Certifications:**

- By signing the Contract, Contractor will certify that all Subcontractors performing construction work will be registered by the Construction Contractors Board (CCB) or licensed by the State Landscape Contractors Board before the Subcontractor starts work on the Project.
- By signing the Contract, contractor will certify that Contractor and all Subcontractors will maintain all required licenses, permits, certifications or registrations throughout the terms of this agreement.
- By signing the Contract, Contractor will certify that it will comply with Oregon tax laws. In addition: Contractor will be solely responsible for payment of any federal or state taxes required as a result of this Contract/Agreement.

**INDEMNITY – HOLD HARMLESS**

Contractor shall defend, indemnify, and hold the City, its officers, agents and employees, harmless against all liability, loss, or expenses, including attorney's fees, and against all claims, actions or judgments based upon or arising out of damage or injury (including death) to persons or property caused by or resulting from any act or omission sustained in connection with the performance of the Contract/Agreement or by conditions created thereby, or based upon violation of any statute, ordinance or regulation. In addition, Section 109.4.00 "Hold Harmless" of the General Conditions is applicable to this Contract.

**INSURANCE**

**General Liability**

- Contractor shall purchase and maintain commercial general liability insurance with minimum coverage of \$1 million per occurrence and \$2 million aggregate. The policy shall name the City as an additional insured and cover acts and omissions of Contractor and its Subcontractors of any level. Contractor shall be liable for the full amount of any claims resulting from negligence or intentional misconduct of Contractor, its subcontractors, and their officials, agents and employees in the performance of this Contract, even if not covered by or in excess of insurance. In addition, Section 104.3.00, 104.4.00 and 104.5.00 of the General Conditions is applicable to this Contract.

### **Workers' Compensation**

- Workers' compensation insurance as required by ORS Chapter 656. Contractor shall ensure that each subcontractor obtains workers' compensation insurance. The Contractor shall ensure that its insurance carrier files a guaranty contract with the Oregon Workers' Compensation Division before performing Work. In addition, Section "Oregon State Public Contract Provisions" – subsection "Workers' Compensation" and section "Independent Contractor – Non-Partnership" of this Contract is applicable.

### **Automobile Insurance**

- If required, the combined single limit per occurrence shall be in an amount at least equal to the State/DMV requirements. In addition, Section 104.6.01 is applicable to this Contract.

### **BONDS**

#### **Payment and Performance Bonds**

- Immediately upon execution of this agreement, Contractor shall provide a separate Performance Bond and a separate Payment bond in a form acceptable to the City of Harrisburg. Each bond shall be equal to 100% of the Contract amount. The Performance Bond and Payment Bond must be signed by the Surety's Attorney-in-fact, and the Surety's seal must be affixed to each bond. Bonds shall not be canceled without the City of Harrisburg's consent, nor will the City release them prior to Contract completion. Bonds must be originals – faxed or photocopied bond forms will not be accepted.

#### **Public Works Bond**

- Contractor will file with the Construction Contractors Board (CCB) a Public Works Bond with a corporate surety authorized to do business in the State of Oregon in the amount of \$30,000 prior to starting work on this contract. Contractor is aware of the provisions of ORS 279C.600 and 279C.605 relating to notices of claim and payment of claims on public works bonds.

### **CONFLICT OF INTEREST**

Contractor shall not give or offer any gift, loan, or other thing of value to any City official or employee. The Contractor shall not rent, lease, or purchase materials, supplies, or equipment, with or through any City official or employee.

### **IMPACT ON TRAFFIC AND PROPERTY**

Contractor shall adopt reasonable means and comply with all laws, ordinances, and regulation in order to minimize interference to traffic and damage to both public and private property; And in accordance to 110.4.00 and 110.4.01 of the General Conditions, shall provide a traffic plan, maintain two-way traffic unless approved otherwise by the City of Harrisburg, and make every effort to maintain public safety and convenience. Contractor shall provide adequate noise control and shall control all obstructions to traffic in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) if applicable.

### **PREVAILING WAGE**

#### **Basic Requirement**

- In accordance to ORS 279C.840, Contractor shall pay to workers in each trade or occupation the current, applicable State prevailing rate of wage as established by the

Oregon State Bureau of Labor and Industries (BOLI). The wage rates applicable are those in effect at the time Project was first advertised.

**Posting of Prevailing Wage Rates**

- Contractor, Subcontractor shall post the prevailing wage rates and fringe benefits in the locality where the labor is performed.

**Certifications of Wage Rates to City of Harrisburg**

- Contractor shall furnish weekly to the City of Harrisburg certified statements, in writing on a form prescribed by the Commissioner of the Bureau of Labor, certifying: (a) The hourly rate of wage paid each worker whom the Contractor the Subcontractor has employed upon the public works improvement; and (b) That no worker employed upon the public works has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract.
- If the Contractor has not filed the certified statements as required under this contract, The City of Harrisburg is required by law to retain 25% of any amount earned by the Contractor until the Contractor has complied. Final payment cannot be made without all applicable wage rates on file with the City.

**Applicability of both Federal (Davis-Bacon) and State (BOLI) Prevailing Wage Rates**

- When a public works project is subject to the Davis Bacon Act (40 U.S.C.3141 et seq.), the Contractor and every Subcontractor shall pay the higher of the two (BOLI and Davis Bacon) prevailing wage rates.

**Access to Wage Rate Records – Worker Interview Verification**

- Contractor shall allow the Bureau of Labor and Industries (or Federal Officials) to enter the office or business establishment of Contractor at any reasonable time to determine whether the prevailing rate of wage and or the higher of the State prevailing wage rate and the Davis-Bacon wage rate is actually being paid and shall make payment records available to BOLI or Federal Officials on request. Contractor shall require Subcontractors to provide the same right of entry and inspection. In addition, shall allow interviews with persons with each discipline (trade) to determine if the correct wage rate is actually being paid.

**All BOLI Requirements Applicable**

- Contractor must comply with all laws and regulations relating to prevailing wages, whether or not set out in this Contract. Further information regarding prevailing wages, including requirements applicable to Contractor, is available at: [https://www.oregon.gov/boli/WHD/PWR/Pages/July\\_2016\\_Index.aspx](https://www.oregon.gov/boli/WHD/PWR/Pages/July_2016_Index.aspx). And available by contacting the Bureau of Labor & Industries at 971-673-0839

### **WARRANTIES**

All work shall be guaranteed for a period of one (1) year against defects in materials and workmanship. Contractor unconditionally warrants all work and materials for this Project, including additional work authorized under change orders, against any defects whatsoever, for one (1) year from the date of acceptance by the City of Harrisburg, except that manufacturers' warranties and extended manufacturer warranties as specified in the contract documents or otherwise is a standard manufacturer product warranty shall not be abridged. In addition to its right to proceed on the warranty, the City may recover for breach of contract or negligence even if defects do not become evident during the warranty period. The Contractor also agrees to hold the City of Harrisburg harmless from claims of any kind arising from damage due to said defects. In addition, Section 109.7.00 of the General Conditions is applicable to this Contract.

### **LIQUIDATED DAMAGES**

Contractor agrees to pay liquidated damages in accordance to Section 110.9.00 of the General Conditions. The City of Harrisburg is authorized to deduct the amount of the liquidated damages from any amounts due and the Contractor and its Surety shall be liable for any excess. If the Contract is terminated for default (see following "Termination") and if the Work has not been completed by other means on or before the expiration of Contract time or adjusted Contract time, liquidated damages will be assessed against the Contractor for the duration of time reasonably required to complete the work.

### **TERMINATION OF CONTRACT AND SUBSTITUTED PERFORMANCE**

**Termination for Default** – Termination of the Contract for default may result if the Contractor:

- Violates any material provision of the Contract;
- Disregards applicable laws and regulations or the Engineer's instructions;
- Refuses or fails to supply enough materials, equipment or skilled workers for the prosecution of the Work in compliance to the Contract;
- Fails to make prompt payment to Subcontractors;
- Makes an unauthorized general assignment for the benefit of the Contractor's creditors;
- Has a receiver appointed because of the Contractor's insolvency;
- Is adjudged bankrupt and the court consents to the Contract termination; or
- Otherwise fails or refuses to faithfully perform the Contract according to its terms and conditions.

If the Contract is terminated by the City, upon demand the Contractor and Contractor's Surety shall provide the Engineer with immediate and peaceful possession of the Project Site, and of all materials and equipment to be incorporated into the Work, whether located on and off the Project Site, for which the Contractor received progress payments.

If the Contract is terminated for default, neither the Contractor nor its Surety shall be:

- Relieved of liability for damages or losses suffered by the City because of the Contractor's breach of Contract; or
- Entitled to receive any further progress payments until the Work is completed. However, progress payments for completed Work that remain due and owing at the time of Contract termination may be made according to the City's payment terms, except that the Engineer will be entitled to withhold sufficient funds to cover costs incurred by the City as a result of the termination. Final payment to the Contractor will be made according to the City's payment terms.

**If a termination under this provision is determined by a court of competent jurisdiction to be unjustified, the termination shall be deemed a termination of public convenience.**

#### **Termination for Public Convenience**

- The Engineer may terminate the Contract in whole or in part whenever the Engineer determines that termination of the Contract is in the best interest of the public.
- Notice: The Engineer will provide the Contractor and the Contractor's Surety seven (7) calendar days' written notice of termination for public convenience. After such notice, the Contractor and the Contractor's Surety shall provide the Engineer with immediate and peaceful possession of the Project Site, and of materials and equipment to be incorporated into the Work, whether located on and off the Project Site, for which the Contractor received progress payments.
- Compensation: Compensation for Work terminated by the Engineer under this provision will be determined by the amount of Work completed/installed and materials and equipment furnished and the status of payment (paid/un-paid) for such Work, materials and equipment; less any outstanding labor or material claims against the Contractor.

#### **Substituted Performance**

According to the City's procedures, and upon the Engineer's recommendation that sufficient cause exists, the City, without prejudice to any of its other rights or remedies and after giving the Contractor and the Contractor's Surety ten (10) calendar days' written notice may:

- Terminate the Contract;
- Substitute the Contractor with another Entity to complete the Contract;
- Take possession of the Project Site;
- Take possession of materials on the Project Site;
- Take possession of materials not on the Project Site, for which the Contractor received progress payments;
- Take possession of equipment on the Project Site that is to be incorporated into the Work;
- Take possession of equipment not on the Project Site that is to be incorporated into the Work, and for which the Contractor received progress payments; and
- Finish the Work by whatever method the City deems expedient.

If within the ten (10) calendar days' notice period provided above, the Contractor and/or its Surety corrects the basis for declaration of default to the satisfaction of the Engineer, or if the Contractor's Surety submits a proposal for correction that is acceptable to the Engineer, the Contract will not be terminated.

#### **ASSIGNMENT**

Contractor shall not assign or transfer its interests in this contract without written consent of City, which consent may be withheld in the City's sole, subjective discretion; nor shall the Contractor assign any monies due or to become due to him/her hereunder without the previous written consent of the City of Harrisburg.

#### **INDEPENDENT CONTRACTOR – NON-PARTNERSHIP**

The Contractor shall perform all work under this Project as an Independent Contractor or Independent Agent and shall not be considered as an agent of the City of Harrisburg, nor shall the Contractor's Subcontractors or employees be sub-agents of the City of Harrisburg. In addition:

- The Work to be rendered under this Project is that of Independent Contractor. Contractor is not an officer, employee, or agent of the City under ORS 30.265 or ORS 30.287, and Contractor is not to be considered an officer, employee or agent of the City for any purpose. Contractor shall be solely and entirely responsible for its act and for the acts of its subcontractors, agents or employees during the performance of this Project. Contractor is an Independent Contractor for the Oregon Workers' Compensation Law (ORS Chapter 656) and is solely liable for workers' compensation coverage under any Contract/Agreement applicable to the Project.
- No Agency, Partnership or Joint Venture – Neither the City or Contractor by virtue of any Agreement applicable to this Project, is a partner or joint venture with the other party in connection with the activities carried out under this Project.
- Any Contract/Agreement applicable to this Project is not intended to entitle the Contractor nor any of its Subcontractors to any benefits generally granted to City Employees. **Contractor shall be responsible for all federal or state taxes** applicable to compensation or payment paid to Contractor under any Contract/Agreement applicable to this Project.

### **FORCE MAJEURE**

Contractor shall not be held responsible for delay or default caused by fire, riot, act of God, and war which is beyond Contractor's reasonable control. Contractor shall, however, make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon the cessation of the cause, diligently pursue performance of its obligations under the Contract.

### **SEVERABILITY**

In the event any of the provisions or portion of the Contract/Agreement are held to be unenforceable or invalid by any court of competent jurisdiction for any reason, such invalid or unenforceable provision shall in no way effect the validity or enforceability of the remaining provisions or portions.

### **WAIVERS**

No term or condition of this Contract/Agreement shall be deemed to have been waived by any Party, unless such waiver is in writing signed by the Party charged with such waiver. Any waiver of any provision of the Contract, or any right or remedy, given on any one or more occasions shall not be deemed a waiver with respect to any other occasion. The failure of either Party to enforce any provision of the project documents shall not constitute a waiver by the City of that or any other provision.

### **MERGER**

No waiver, consent, modification or change of terms of this Contract shall bind either party unless in writing and signed by both parties. A waiver, consent, modification or change, if made shall be effective only in the specific instance and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Contract. Contractor by signature of its authorized representative hereby acknowledge that Contractor understands the Contract and agrees to be bound by its terms and conditions.

### **LIMITATION OF AUTHORITY**

City retains its authority to execute all applications, contracts and other documents relating to the Project. Contractor has no right or authority, express or implied, to commit or otherwise obligate City or any of its partners, except as permitted by the express terms of this Contract, or as authorized in writing.



**ATTORNEY FEES AND GOVERNING LAW**

In the event an action, suit or proceeding, including appeal, is brought for failure to observe any of the terms of this Contract, each party shall be responsible for that party's own attorney fees, expenses, costs and disbursements for the action, suit, proceeding or appeal. The provisions of this Contract shall be construed in accordance with the provisions of the laws of the State of Oregon. Any action or suits involving any question arising under this Contract must be brought in the appropriate court of the State of Oregon.

**REMEDIES**

The remedies provided for in the Contract are cumulative, and in addition to other remedies available at law. Contractor agrees that, due to the health, safety and welfare issues that relate to timely and acceptable completion of the Project to be constructed under this Contract, the City may not have an adequate remedy at law in the event of a breach of this Contract by Contractor, and that the City may obtain injunctive relief at the sole elections of the City.

**COUNTERPARTS**

The Contract may be signed in one or more counterparts (including change orders), each of which shall be an original and all of which, when taken together, shall constitute one and the same instrument.

**GENDER: SINGULAR - PLURAL**

Whenever masculine, feminine, neuter, singular, plural, conjunctive, or disjunctive terms are used in the Contract, they shall be construed to read in whatever form is appropriate to make the Contract applicable to all the Parties and all circumstances, except where the context of the Contract clearly dictates otherwise.

**INTERCHANGEABLE TERMS IN CONTRACT AND RELATED DOCUMENTS**

Contract and Agreement are interchangeable;  
City and Owner are interchangeable; and  
Engineer, City Engineer are interchangeable – this can be further construed to include Project Manager and or the designee of the City Engineer.

**NOTICES**

All notices of a legal nature shall be in writing and shall be served upon the other party by personal service, by facsimile transmission, E-Mail followed by mail delivery of the original of such notice, by overnight courier with proof of receipt, or by certified mail, return receipt requested, postage prepaid, addressed as follows: City of Harrisburg, P.O. Box 378, 120 Smith Street, Harrisburg, Oregon 97446, Attn: City Recorder, Phone: 541-995-6655. Service by mail shall be deemed complete on the date of actual delivery or three (3) business days after being sent via certified mail. Service by facsimile transmission or E-Mail shall be deemed served up receipt of the facsimile or E-Mail, followed by mail delivery.

**THE PARTIES SIGNING BELOW WARRANT, REPRESENT AND AGREE THAT THEY HAVE  
AUTHORITY TO SIGN THIS AGREEMENT AND AGREE TO ALL TERMS**

**CONTRACTOR:** \_\_\_\_\_

**BY:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

\_\_\_\_\_

**CITY OF HARRISBURG, OREGON**

**BY:** \_\_\_\_\_

**TITLE:** CITY ADMINISTRATOR

**DATE:** \_\_\_\_\_

**APPROVED AS TO LEGAL SUFFICIENCY:** \_\_\_\_\_  
CITY ATTORNEY

\_\_\_\_\_

**DEPARTMENTAL AUTHORIZATION – CITY OF HARRISBURG- PUBLIC WORKS**

**BY:** \_\_\_\_\_

**TITLE:** PUBLIC WORKS DIRECTOR

**DATE:** \_\_\_\_\_

**Section 400**  
**GENERAL CONDITIONS**

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## GENERAL CONDITIONS

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### 101 DEFINITIONS AND ABBREVIATIONS

#### 101.1.00 DEFINITIONS

Whenever the following terms are used in these Specifications, in the Agreement, in any documents or other instruments pertaining to construction where these Specifications govern, the intent and meaning shall be interpreted as follows, all of which are applicable to both the singular and plural thereof.

#### AGREEMENT/CONTRACT

The written agreement between Owner and Contractor covering the work to be performed; other Contract Documents are attached to the Agreement. Contract and Agreement for the purpose of this document are interchangeable.

#### ADDENDUM

A supplement to any of the Contract Documents issued, in writing, after advertisement of but prior to the opening bids for an Agreement.

#### ADVERTISEMENT

An announcement inviting bids for work to be performed and materials to be furnished.

#### APPLICATION FOR PAYMENT

The form acceptable to the City of Harrisburg as approved by the City Engineer/Project Manager – see Section 111.0

#### AS APPROVED

The words “as approved” unless otherwise qualified, shall be understood to be followed by the words “by the City Engineer.”

#### BIDDER

Whenever the word “bidder” occurs in these Contract Documents, the work shall signify any person, firm, partnership, or corporation submitting a proposal on this project.

#### BID SECURITY – BID BOND

The certified check, cashier’s check, or surety bond which is required to be submitted with the Proposal to ensure execution of the Agreement and the furnishing of the required bonds. The amount shall be a minimum of 5% of the total bid price. See Section 109.10.00

#### CHANGE ORDER

A written order issued after the execution of the Agreement to the Contractor and signed by City of Harrisburg authorizing an addition, deletion or revision in the work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement – See also extra work and force account work.

#### CITY

The City of Harrisburg, including its duly authorized representatives.

#### CITY COUNCIL

The City Council of the City of Harrisburg.

**CITY ENGINEER**

Whenever the words "City Engineer" occurs in these Contract Documents, the words shall signify in addition the City Engineer or his/her authorized representative "designee" as directed by him/her. See section 103 "The City Engineer" of this document.

**CONTRACT**

See Agreement.

**CONTRACT DOCUMENTS (COLLECTIVELY ALL DOCUMENTS RELEVANT TO THIS PROJECT)**

The "Contract Documents" consist of the Invitation to Bid, the Instructions to Bidders, the Proposal, the Agreement, the General Conditions, the supplementary general conditions, the Specifications, the special specifications, the Contract/Agreement and the plans including all modifications thereof incorporated into the documents before their execution, and including all other requirements incorporated by specific reference thereto. These form the Agreement.

**CONTRACT ITEM (PAY ITEM)**

A specific unit of work for which a price is provided in the Proposal.

**CONTRACT PRICE**

The total amount payable to Contractor under the Agreement.

**CONTRACTOR**

The person or persons, co-partnership, corporation, or joint venture who have entered into an agreement with the City of Harrisburg as party or parties of the second part, or his/her or their legal representatives. The word "Contractor," although used herein as terming an individual, shall be taken to mean the Contractor, his/her agents, employees, officials, Subcontractors, or anyone connected with the work herein set forth on behalf of the Contractor.

**CONTRACT TIME**

The number of calendar or workdays stated in the Contract Documents, allowed for completion of work, including authorized time extensions. If a calendar date of completion is stated in the Proposal, in lieu of a number of calendar days, the contract shall be completed by that date.

**DAY**

Unless otherwise stated, the term "day" shall be taken to mean a calendar day of 24 hours, beginning at 12:00 midnight. Saturdays, Sundays and holidays shall be included.

**DEVELOPER**

A private entity who has expressed the intention of providing, or who has undertaken the providing, of some facility, structure, or like project to be accepted for maintenance and ownership by the City of Harrisburg.

**DRAWINGS/PLANS**

That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

**ENGINEER**

Wherever the word "Engineer" occurs in these Contract Documents, the word shall signify the "City Engineer" or his/her authorized representative" and vice versa.

**EQUIPMENT**

All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

**EXTRA WORK**

Work not included in the Contract, but deemed by the Engineer to be necessary to complete the Project. See extra Work and force account Work – Section 111.3.03 in this document.

**FORCE ACCOUNT WORK**

Items of Extra Work ordered by the Engineer that are to be paid according to Section 111.3.03.

**INSPECTOR**

An authorized representative of the City Engineer assigned to make all necessary inspections and/or test of the work performed or being performed, or of the materials furnished or being furnished by the City of Harrisburg.

**INTENTION OF TERMS**

Whenever, in these Specifications or on the plans, the words “require,” “permitted,” “ordered,” “designated,” “prescribed” or words of the like import are used, it shall be understood that the requirements, permission, order, designation, or prescription of the City Engineer is intended; and similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import shall mean approved by, or acceptable to, or satisfactory to the City Engineer, subject in each case to the final determination of the City of Harrisburg.

**LABORATORY**

The official testing laboratories of the City of Harrisburg or such other laboratories as may be designated by the City Engineer.

**LEGAL HOLIDAY**

The following, subject to subsequent change by law, are legal holidays: Sunday, New Year’s Day, Martin Luther King Jr. Day, President’s Day, Memorial Day, Independence Day, Labor Day, Veteran’s Day, Thanksgiving and the day after Thanksgiving, Christmas, and those days declared as holidays by public proclamation. When a legal holiday, other than Sunday falls on a Sunday, the immediate following Monday is a legal holiday.

**MATERIALS**

Any substance incorporated in the project and equipment and other material consumed in the performance of work.

**MODIFICATION**

- (a) A written amendment of the Contract Documents signed by both parties.
- (b) A change order.
- (c) Written clarification or interpretation issued by City Engineer.
- (d) A written order for a minor change or alteration in the work issued by City Engineer.
- (e) A modification may only be issued after execution of the Agreement.

**NOTICE OF AWARD**

The written notice by City of Harrisburg to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him/her within the time specified, City of Harrisburg will execute and deliver the Contract to him/her.

**NOTICE TO PROCEED**

A written notice to the Contractor fixing the date on which to begin the actual contract work. If applicable, the Notice to Proceed shall state the date on which the Contract Time will commence to run.

**OR EQUAL**

The term “or equal” shall be understood to indicate that the “equal” product is the same or better than the product named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project design requirements will be made by the City Engineer. Such “equal” products shall not be purchased or installed by the Contractor without the City Engineer’s written approval.

**OWNER**

The legal entity or contracting agency for which the work is being performed. Where applicable the Developer is the Owner until such time as the improvements are accepted by the City Council for maintenance.

**PAYMENT BOND**

The approved form of security furnished by the Contractor and his/her surety as a guarantee that he/she will pay in full all bills and accounts for materials and labor used in the construction of the work. See Section 109.10.00

**PERFORMANCE BOND**

The approved form of security furnished by the Contractor and his/her surety as a guarantee that the Contractor will complete the work in accordance with the terms of the Agreement. The separate payment bond and the performance bond shall be on the Contractor’s own Surety form(s). See Section 109.10.00

**PLANS**

The term “Plans” refers to the official plans, profiles, cross sections, elevations, details and other working drawings and supplementary drawings, or reproductions thereof, signed by the City Engineer, which show the location, character, dimensions, and details for the work to be performed. Plans may either be bound in the same book as the balance of the Contract Documents or bound in separate sets, and are a part of the Contract Documents regardless of the method of binding.

**PREQUALIFICATION – OF BIDDERS**

The City of Harrisburg will prequalify bidders prior to award of the Contract. Bidders must be registered with the Construction Contractor’s Board (CCB) for the work as set forth for this Project and must have the registration with the CCB under the name the bid is submitted under for not less than three (3) years. Bidders must not be on a State or Federal debarred listing.

**PROPOSAL**

The written offer of the bidder submitted on the approved proposal form setting forth the prices for the work to be performed.

**PROPOSAL GUARANTY**

See Bid Security and Section 109.10.00

**REFERENCE SPECIFICATIONS**

Bulletins, standards, rules, methods of analysis or test, codes and specifications.

**SPECIAL SPECIFICATIONS/SPECIAL PROVISIONS**

Requirements peculiar to the project.

**STANDARD SPECIFICATIONS/GENERAL CONDITIONS**

Codes, rules and regulations referred to in these Specifications/General Conditions by basic name or designation only, shall be considered to be of the latest issue with all amendments as of the date of these Specifications. Applicable portions of such shall become a part of these Contract Documents.

**STRUCTURES**

Facilities such as bridges, culverts, catch basins, inlets, retaining walls, cribbing, storm and sanitary sewer lines, waterlines, utility cables and pipelines, under drains, electrical ducts, manholes, hand



holes, lighting fixtures and bases, transformers, flexible and rigid pavements; buildings, vaults, and other man-made features that may be encountered in the work and not otherwise classified herein.

**SUBCONTRACTOR**

An individual, firm, or corporation having a direct contract with the Contractor or any other Subcontractor for the performance of a portion of the work on the project, or those who furnish material for the project.

**SUPERINTENDENT**

The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the City Engineer, and who shall supervise and direct the construction.

**SURETY**

A corporation, licensed to conduct the business of surety in the State of Oregon, and named in the current list of approved sureties published by the U.S. Treasury Circular 570. All bonds signed on behalf of the Surety must be accompanied by a certified copy of the authority to act.

If the Surety on any bond furnished by the Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in the State of Oregon, or it ceases to meet the requirements outlined above, Contractor shall within five (5) days thereafter, substitute another Bond and Surety, both of which shall be acceptable to the City of Harrisburg.

**WETLANDS**

Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swaps, marshes, bogs, and similar areas.

**WORK**

Wherever the word "work" occurs in these Contract Documents, the word shall signify all materials, labor, tools and all appliances, machinery and appurtenances necessary to perform and complete everything specified in the Contract Documents or shown on the Plans, and such additional items of labor, material, and equipment not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated and as required by good practice to provide a complete and satisfactory system or structure. As used herein, "provide" shall be understood to mean, "furnish and install."

**WORKING DAY**

Any and every calendar day excluding Saturdays, Sundays, and legal holidays. Unless otherwise permitted, a working day occurs between the hours of 7:00 a.m. and 3:30 p.m.

**WRITTEN NOTICE**

Whenever the term "Written Notice" occurs in these Contract Documents, the term shall signify a written communication delivered in person to the individual, or to a member of the firm, or to an officer of the corporation for whom it is intended, or, if delivered or sent by electronic mail, certified mail or first class mail, to the last business address known to him/her who gives the notice.

**101.2.00 ABBREVIATIONS**

Wherever in these Specifications, on the plans or in the special specifications the initials only of a society or association are used, the following organizations are referred to:

AASHTO:	American Association of State Highway and Transportation Officials
AGC:	Associated General Contractors of America
AIA:	American Institute of Architects
ANSI:	American National Standards Institute
APWA:	American Public Works Association
ASCE:	American Society of Civil Engineers
ASME:	American Society of Mechanical Engineers
ASTM:	American Society for Testing and Materials
AWWA:	American Water Works Association
BOLI:	Bureau of Labor & Industries
CCB:	Construction Contractors Board
CFR:	Code of Federal Regulations
DBE:	Disadvantaged Business Enterprise
DEQ:	Department of Environmental Quality, State of Oregon
EPA:	U.S. Environmental Protection Agency
FHWA:	Federal Highway Administration, U.S. Department of Transportation
FSS:	Federal Specifications & Standards, General Services Administration
GSA:	General Services Administration
MIL:	Military Specifications
MUTCD:	Manual on Uniform Traffic Control Devices
NEC:	National Electric Code
NEMA:	National Electrical Manufacturers Association
NFPA:	National Fire Protection Association
OAR:	Oregon Administrative Rules
ORS:	Oregon Revised Statutes
OSHA:	Occupational Safety and Health Administration
ODOT:	Oregon Department of Transportation
PUC:	Public Utility Commission, State of Oregon
QA:	Quality Assurance
QC:	Quality Control
UBC:	Uniform Building Code (as adopted by the State of Oregon)
UL:	Underwriters Laboratories, Inc.
UPC:	Uniform Plumbing Code (as adopted by the State of Oregon)
USC:	United States Code

## **102 CONTRACT DOCUMENTS**

### **102.1.00 INTENT OF CONTRACT DOCUMENTS**

The Contract Documents are complimentary, and what is called for by any one shall be as binding as if called for by all. The intent of the Contract Documents is to describe a complete project to be constructed in accordance with the Contract Documents. Any work that may be reasonably inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not it is specifically called for. Materials or work described in words, which so applied, have a well-known technical and trade meaning shall be held to refer to such recognized standards.

### **102.2.00 INCONSISTENCIES AND OMISSIONS**

Any inconsistency, conflict, error or omission found in the Contract Documents shall be reported to the City Engineer in writing immediately and before proceeding with the work affected thereby; however, Contractor shall not be liable to City of Harrisburg or City Engineer for his/her failure to discover any

conflict, error, or inconsistency in the Contract Documents. The City Engineer will clarify inconsistencies or omissions, in writing, within a reasonable time. The decision of the City Engineer shall be final. In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order:

- The more stringent requirement
- Federal requirements
- State requirements
- Modifications, the last in time being the first in precedence, including all Addenda to the Contract Documents.
- Agreements.
- Plans/drawings – figure dimensions on drawings shall take precedence over scale dimensions. Detailed drawings shall take precedence over general drawings.
- Special Specifications
- City's Standards & Specifications
- Instructions to Bidders
- General Conditions
- Reference Specifications

Figure dimensions on plans shall take precedence over scale dimensions. Detailed plans shall take precedence over general plans.

#### **102.3.00 ALTERATIONS AND CHANGE ORDERS**

The City of Harrisburg, without invalidating the Contract, may at any time or from time to time, order extra Work or make changes by altering, adding to, or deducting from the Work. All such Work shall be authorized by Change Order and executed under the conditions of the original Contract, except that claim by either party for time and payment increase or decrease caused thereby shall be adjusted at the time of ordering such change.

The City Engineer may authorize minor changes in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. **The percentage of increase on extra Work involving additional costs will be at the same rates as the "Force Account Work" in section 111.3.03 of these contract documents.**

Extra work performed by Contractor, without authorization of a Change Order, will not entitle him/her to an increase in the Contract Price or to the finding that an emergency circumstance exists that endangers life or property.

If the Work is reduced by alterations, such action shall not constitute a claim for damages based on loss of anticipated profits.

#### **102.4.00 VERIFICATION OF DATA**

It is understood and agreed that the Contractor has, by careful examination, satisfied himself/herself as to the nature and location of the work; the conformation of the grounds; the character, quality, and quantities needed preliminary to and during the prosecution of the work; the general and local conditions; and all other matters which can in any way affect the work under this Agreement. No verbal agreement or conversation with any officer, agent, or employee of the City of Harrisburg, either before or after the execution of this Agreement, shall affect or modify any of the terms or obligations herein contained.

#### **102.5.00 DOCUMENTS TO BE KEPT AT THE WORK SITE**

The Contractor shall keep one copy of the Contract Documents at the work site, in good condition, available to the City Engineer and to his/her representatives.

The Contractor shall maintain on the job site, and make available to the City Engineer upon request, one current marked-up set of the Design Drawings which accurately indicate all approved variations in the completed work that differ from the design information shown on the Drawings.

#### **102.6.00 DOCUMENTS TO BE FURNISHED**

The City will no longer furnish any additional copies of the Contract Documents or Plans to the Contractor. Additional copies of Contract Documents or Plans may be obtained on request by paying the actual cost of reproducing the Contract Documents or Plans.

#### **102.7.00 OWNERSHIP OF DRAWINGS**

All Plans, Drawings, Specifications and copies hereof furnished by the City Engineer are the City's property and are not to be used on other work and, with the exception of the signed contract set, are to be returned on request at completion of the work. Any reuse of these materials without specific written verification by the City Engineer will be at the risk of the user and without any liability or legal expense to the City Engineer. All models are the property of the City of Harrisburg.

#### **102.8.00 PROJECT WORK SCHEDULES**

The Contractor shall submit a Project Work Schedule meeting the Project requirements to the Engineer. The Project Work Schedule is intended to identify the sequencing of activities and time required for prosecution of the Work. The schedule is used to plan, coordinate, and control the progress of construction. Therefore, the Project Work Schedule shall provide for orderly, timely, and efficient prosecution of the Work, and shall contain sufficient detail to enable both the Contractor and the Engineer to plan, coordinate, analyze, document and control their respective Contract responsibilities. The Project Work Schedule will be subject to review, adjustments (collectively by both parties) and approval by the Engineer.

#### **102.8.00 PROJECT PROGRESS REPORT**

The Contractor shall submit a progress report to the Engineer each month with their pay application. The report shall include:

- Sufficient narrative to describe the past progress, anticipated activities, and stage Work;
- A description of any current and expected changes or delaying factors and their effect on the construction schedule; and
- Proposed corrective actions.

### **103 THE CITY ENGINEER**

#### **103.1.00 AUTHORITY OF THE CITY ENGINEER**

The City Engineer shall be the City of Harrisburg's representative during the construction and he/she shall observe the work in progress on behalf of the City of Harrisburg. This general inspection of the construction will not, however, relieve the construction Contractor(s) from his/her (their) obligation to conduct comprehensive inspections and to maintain full responsibility for the techniques and sequences of construction, the safety precautions incidental thereto, and for performing the construction work in accordance with the Contract Documents. He shall also have the authority to reject all work and materials, which do not conform to the Agreement. The City Engineer will, within a reasonable time after their presentation to him/her, make decisions, in writing, on all claims of the City of Harrisburg or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents. The City Engineer's estimates and decisions shall be the condition precedent to the right of the Contractor to any action on the Agreement and to any right to receive additional money under the Agreement. The Engineer shall have the authority to order changes in the work or extra work, as provided in the paragraph "Alterations and Change Orders" of the Section CONTRACT DOCUMENTS.

The City Engineer will not be responsible and has not been retained or compensated to provide design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences or procedures required for the Contractor to perform his/her work.

#### **103.2.00 ENGINEER'S REPRESENTATIVES**

Assistants may be assigned to various portions of the work by the City Engineer. It is understood that such assistants shall have the power, in the absence of the City Engineer, to issue clarifications and make decisions within the limitations of the authority of the City Engineer. The authority of such

assistants shall, however, be limited to the particular portion or phase of the work to which they are assigned and by the particular duties assigned to them. Upon request, the assignment and duties of the Inspector or Inspectors will be provided in writing.

#### **103.2.01 AUTHORITY AND DUTIES OF THE INSPECTOR**

The Engineer may appoint assistants to inspect all materials used and all work done. Such inspection may extend to any or all parts of the work and to the preparation or manufacture of the materials to be used. The Inspectors will not be authorized to revoke, alter, enlarge or relax the provision on the work to check the necessary lines and grades and to keep the Engineer informed as to the progress of the work and the manner in which it is being done; also to call the attention of the Contractor to any infringements upon plans or specifications, but failure of the Inspector or the Engineer to call the attention of the Contractor to faulty work or infringements upon the plans or specifications shall not constitute acceptance of said work.

An Inspector will not be authorized to approve or accept any portion of the work or to issue instructions contrary to the plans and specifications. The Inspector will have authority to reject defective material and to suspend any work that is being improperly done, subject to the final decision of the Engineer. The Inspector will exercise such additional authority as may, from time to time, be especially delegated to him/her by the Engineer.

#### **103.3.00 INSPECTION**

City Engineer and/or Inspector will make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the Contract Documents. He will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. His/her efforts will be directed toward providing assurance for the City of Harrisburg that the completed project will conform to the requirements of the Contract Documents. On the basis of his/her on-site observations as an experienced and qualified design professional, he/she will keep City of Harrisburg informed in the progress of the work and will endeavor to guard the City of Harrisburg against defects and deficiencies in the work of Contractors.

#### **103.4.00 REJECTED DEFECTIVE WORK**

Engineer or Owner have authority to disapprove or reject Work which Engineer or Owner believes to be defective, or that Engineer or Owner believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer or Owner will also have authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

If any Work is covered contrary to the written request of Engineer or Owner, it must, if requested by Engineer or Owner, be uncovered for Engineer or Owner's observation and replaced at Contractor's sole expense.

If engineer or Owner considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, CONTRACTOR, at Engineer's request shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim.

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will not conform to the Contract Documents, OWNER shall reserve the right to contract another contractor to correct the defective work and may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any Surety for, or employee or Agent of any of them.

CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed. CONTRACTOR'S obligations under this paragraph are in addition to any other obligation or warranty. The provisions of this paragraph shall not be construed as a substitute for a waiver of the provisions of any applicable statute of limitation or repose.

#### **103.5.00 UNNOTICED DEFECTS**

The City Engineer will not be responsible for the acts or omissions of the Contractor or any Subcontractor or other persons at the site performing any of the work. Any defective work or material that may be discovered by the City Engineer before the final acceptance of work, or before final payment has been made, or during the guarantee period, shall be removed and replaced by work and materials which shall conform to the provision of the Contract Documents. Failure on the part of the Engineer to condemn or reject bad or inferior work or materials shall not be construed to imply acceptance of such work or materials.

#### **103.6.00 RIGHT TO RETAIN IMPERFECT WORK**

If any part or portion of the work done or material furnished under this Agreement shall prove defective and not in accordance with the plans and specifications, and if the imperfection in the same shall not be of sufficient magnitude or importance as to make the work dangerous or undesirable, or if the removal of such work will create conditions which are dangerous or undesirable, the City of Harrisburg shall have the right and authority to retain such work. In such case, if acceptance occurs after approval of final payment, an appropriate amount shall be paid by the Contractor to City of Harrisburg.

#### **103.7.00 LINES AND GRADES**

Lines and grades shall be the responsibility of the Contractor and shall be established under the on-site supervision of a Registered Professional Surveyor or Registered Engineer, licensed in the State of Oregon.

#### **103.8.00 DETAIL DRAWINGS AND INSTRUCTIONS**

The City Engineer will furnish, with reasonable promptness, additional instructions by means of drawings or otherwise, as are necessary for the proper execution of the work. All such drawings and instructions will be consistent with the Contract Documents.

#### **103.9.00 SHOP DRAWINGS AND SAMPLE SUBMITTALS**

The Contractor shall submit, in quadruplicate, to the Engineer for this review, such shop drawings, electrical diagrams, and catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment) required by the Contract Documents. Drawings shall be submitted in sufficient time to allow the City Engineer not less than ten (10) regular working days for examining the drawings.

The drawings shall be accurate, distinct, and complete, and shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the contract drawings and specifications.

Unless otherwise approved by the City Engineer, shop drawings shall be submitted only by the Contractor, who shall indicate by a signed stamp on the drawings, or other approved means, that he/she (the Contractor) has checked the shop drawings, and that the work shown is in accordance with contract requirements and has been checked for dimensions and relationship with work of all other trades involved. The practice of submitting incomplete or unchecked shop drawings for the City Engineer to correct or finish will not be acceptable, and shop drawings which, in the opinion of the City Engineer, clearly indicate that they have not been checked by the Contractor will be considered as not complying with the intent of the Contract Documents and will be returned to the Contractor for resubmission in the proper form.

When the shop drawings have been reviewed by the City Engineer, two sets of submittals will be returned to the Contractor appropriately stamped. If major changes or corrections are necessary, the drawing may be rejected and one set will be returned to the Contractor with such changes or corrections indicated, and the Contractor shall correct and resubmit the drawings, in quadruplicate, unless otherwise directed by the City Engineer. No changes shall be made by the Contractor to resubmitted shop drawings other than those changes indicated by the City Engineer.

The review of such drawings and catalog cuts by the City Engineer shall not relieve the Contractor from responsibility for correctness of dimensions, fabrication details and space requirements, or for deviations from the contract drawings or specifications, unless the Contractor has called attention to such deviations in writing by a letter accompanying the drawings and the City Engineer approves the change or deviations in writing at the time of submission, nor shall review by the City Engineer relieve the Contractor from the responsibility for errors in the shop drawings. When the Contractor does call such deviations to the attention of the City Engineer, the Contractor shall state in his/her letter whether or not such deviations involve any deduction or extra cost adjustments. The approval of a separate item as such will not indicate approval of the assembly in which the item functions.

Contractor shall also submit, to City Engineer for approval with such promptness as to cause no delay in work, all samples required by the Contract Documents. All samples shall be clearly identified as to material, manufacturer and any pertinent catalog number if applicable, and the use for which intended.

Where a shop drawing or sample submittal is required by the Contract Documents, no related work shall be commenced until the submission has been approved by the City Engineer.

#### **103.10.0 REJECTION OF NONRESPONSIVE BIDS**

The designated person that opens the bids for this Project shall have the authority to determine, at the time and place of the bid opening, what is an acceptable/responsive bid – that bid which can be accepted and that bid which must be rejected. The decision shall include but not limited to the following responsive items: (1) The completed and signed Lump Sum of bid items; (2) The original 5% bid bond is furnished (if required); And (3) The certifications forms are signed and furnished. Acceptable informalities will be consistent with ORS 279 – the “Attorney General’s Model Rules for Public Contracts” including those mistakes that can be substantiated/acceptable from accompanying documents. Omissions that can’t be substantiated from accompanying documents and ambiguities on the bid submissions will be considered grounds for rejection. The bid may also be rejected later if the sub-tier contractor’s form (required for bids over \$100,000) is not received within two hours of the specified bid time and date.

#### **103.10.1 AWARD OF CONTRACT**

After the Bids are opened and a determination is made that a Contract is to be awarded, the Contract will be awarded to the lowest responsible Bidder. For the purposes of this Section, “lowest responsible Bidder” means the lowest Bidder who is not on the debarment lists created by the Construction

Contractor's Board, Bureau of Labor & Industries or the Federal Excluded Parties List System (EPLS), and who has:

- Substantially complied with all prescribed public bidding procedures and requirements.
- Available the appropriate financial, Materials, Equipment, facility and personnel resources and expertise, or ability to obtain the resources and expertise, necessary to indicate the capability of the prospective Bidder to meet all contractual responsibilities for a complete Project.
- A satisfactory record of performance.
- A satisfactory record of integrity.
- Qualified legally to contract with the City.
- Supplied all necessary information as requested by City in connection with the Project.

If the Bidder is found not to have a satisfactory record of performance or integrity, The City will document the record and the reasons for the unsatisfactory finding. If approved, the City will provide a notice of intent to award. The award will not be final until after the posting date and any protests that may be submitted have been resolved and or partially resolved (findings made) so that the City may proceed with the Project.

Without liability to the City, the City may for good cause cancel Award at any time before the Contract is executed by all parties to the Contract, as provided by ORS 279C.395 for rejection of Bids, upon finding it is in the public interest to do so.

#### **103.10.2 RELEASE OF BID GUARANTIES**

Bid guaranties will be released and checks returned seven calendar days after Bids are opened, except for those of three apparent lowest Bidders on the Project. The guaranties of three lowest Bidders will be released and checks returned to unsuccessful Bidders within seven days of the City's execution of the Contract.

#### **104 THE CONTRACTOR AND HIS/HER EMPLOYEES**

##### **104.1.00 INDEPENDENT CONTRACTOR – NON-PARTNERSHIP**

The Contractor shall perform all work under this Project as an Independent Agent and shall not be considered as an agent of the City of Harrisburg, nor shall the Contractor's Subcontractors or employees be sub-agents of the City of Harrisburg.

- The Work to be rendered under this Project is that of an independent Contractor. Contractor is not an officer, employee, or agent of the City under ORS 30.265 or ORS 30.287, and Contractor is not to be considered an officer, employee or agent of the City for any purpose. Contractor shall be solely and entirely responsible for its acts and for the acts of its subcontractors, agents or employees during the performance of this Project. Contractor is an independent Contractor for the Oregon Workers' Compensation Law (ORS Chapter 656) and is solely liable for workers' compensation coverage under any Agreement applicable to this Project.
- No Agency, Partnership or Joint Venture/Independent Contractor – Neither the City or Contractor, by virtue of any Agreement applicable to this Project, is a partner or joint venture with the other party in connection with the other party in connection with the activities carried out under this Project.
- Any Agreement applicable to this Project is not intended to entitle the Contractor nor any of its Subcontractors to any benefits generally granted to City Employees. Contractor shall be responsible for all federal or state taxes applicable to compensation or payment paid to Contractor under any Agreement applicable to this Project.

##### **104.2.00 SUBCONTRACTING**

The Contractor shall include, in the space provided in the Letter of Employment of Subcontractors, the legal corporate names of all proposed Subcontractors and the portion of the work that these proposed Subcontractors or other persons or organizations shall perform.



The Contractor for this Project agrees that he/she is as fully responsible to the City of Harrisburg for the acts and omissions of his/her Subcontractors and of persons either directly or indirectly employed by them as he/she is for the acts and omissions of persons directly employed by him/her.

Nothing contained in the Contract Documents shall create any contractual relation between any Subcontractor and the City of Harrisburg.

Subcontractors shall be in accordance with, and the Contractor shall be bound by, the following provisions:

- All Subcontractors shall be subject to the approval of the City Engineer.
- All Subcontracts shall be in writing and shall provide that all work to be performed there under shall be performed in accordance with the terms of these Contract Documents.
- If requested, true copies of any and all subcontracts shall be furnished to the Engineer; however, prices may be omitted.
- Subcontractors shall conform to the regulations governing employment of labor.
- The subcontracting of any part of the work will in no way relieve the Contractor of his/her responsibility or liability or obligation under these Contract Documents.

#### **104.3.00 INSURANCE AND LIABILITY**

The Contractor is defined as the provider of all construction services for the City of Harrisburg for this contract, and shall purchase and maintain insurance, naming the City as additionally insured for protection from the claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or by any Subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- Claims under worker's or workmen's compensation, disability benefit and other similar employee benefit acts. (Note: The City would not be additionally insured for Workmen's Compensation.)
- Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- Claims for damages which are sustained (1) by any person as a result of a violation of law, or other conduct that is intentional, reckless, negligent or otherwise, directly or indirectly related to the employment of any person by the Contractor, or (2) by any other person as the result of conduct of the contractor or contractor's employees;
- Claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use resulting there from; and
- Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance shall be written for not less than any limits of liability specified in the Contract Documents or required by law, whichever is greater. The specified limit of liability shall be a combined single limit of \$1,000,000 per occurrence, with an aggregate limit of not less than \$2,000,000. Claims-made coverage forms are not acceptable.

Certificates of Insurance acceptable to the City of Harrisburg shall be filed with the City of Harrisburg prior to commencement of the work. These certificates shall contain a provision that coverage afforded under the policies will not be cancelled until at least thirty days prior written notice has been given to the City of Harrisburg.

The Contractor's liability and property insurance with a completed Operations Endorsement shall be maintained after the completion of the project for the full warranty period. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from his/her operations under this Agreement.

When the construction is to be accomplished within a public or private right-of-way requiring special insurance coverage, the Contractor shall conform to the particular requirements and provide the required insurance. The Contractor shall include in his/her liability policy all endorsements that the said authority may require for the protection of the authority, its officers, agents, and employees.

In case of the breach of any provision of this article, the City of Harrisburg, at its option, may take out and maintain at the expense of the Contractor such insurance as the City of Harrisburg may deem proper and may deduct the cost of such insurance from any monies which may be due or become due the Contractor under this Agreement.

#### **104.4.00 CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE**

The Contractor shall not commence work under this Agreement until he/she has obtained all the insurance required hereunder and such insurance has been reviewed by the City of Harrisburg, nor shall the Contractor allow any Subcontractor to commence work on his/her subcontract until all similar insurance required for that portion of the work has been so obtained. Review of the insurance by the City of Harrisburg shall not relieve or decrease the liability of the Contractor hereunder.

#### **104.5.00 NO PERSONAL LIABILITY OF PUBLIC OFFICIALS**

In carrying out any of the provisions hereof in or exercising any authority granted by the Agreement, there would be no personal liability upon any public official.

#### **104.6.00 BUILDER'S RISK - PROPERTY INSURANCE (IN COURSE OF CONSTRUCTION)**

Unless otherwise provided, the Contractor shall purchase and maintain property insurance (builder's risk) upon the entire work at the site to the full insurable value thereof. This type of insurance is required primarily for structures. Street, water and sewer projects would not require structure insurance. This insurance shall include the interests of the Owner and Sub-subcontractors in the work and shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. Contractor and Subcontractors will be financially responsible for their own equipment, tools, machinery, and supplies during the course of this project.

If the Owner finds it necessary to occupy or use a portion or portions of the work prior to substantial completion thereof, Contractor shall obtain the consent of the insurance company or companies providing the property insurance, by endorsement to the policy or policies. No insurance shall be canceled or lapsed on account of such partial occupancy or use.

In the event Contractor neglects, refuses or fails to provide the insurance required under the Contract Documents, or if such insurance is canceled for any reason, the Owner shall have the right but not the duty to procure the same and the cost thereof shall be deducted from monies then due or thereafter to become due to Contractor.

#### **104.6.01 COMMERCIAL AUTOMOBILE LIABILITY INSURANCE**

Contractor, if required, shall provide commercial automobile liability insurance covering all owned, non-owned, and hired vehicles. The coverage may be written in combination with commercial general liability with separate combined single limit per occurrence shall be in an amount at least equal to the State/DMV requirements.

#### **104.7.00 SUPERVISION**

The Contractor shall keep on the project, during its progress, competent supervisory personnel – specifically, at all times during the progress of the Work, Contractor shall assign a competent superintendent thereto who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor. The Contractor shall designate, in writing, before starting work, an authorized representative who shall have complete authority to represent and to act for the Contractor. The Contractor shall give efficient supervision to the work, using his/her best skill and attention. The Contractor shall be solely responsible for all construction means, methods,

techniques, sequence, and procedures, and for providing adequate safety precautions and coordinating all portions of the work, and shall be solely responsible for the compliance to all applicable federal, state, and local laws including OSHA and the Prevailing Wage Laws applicable to this Project under the Agreement. The Contractor shall be responsible to see that the finished work complies accurately with the Contract Documents.

#### **104.7.01 RESPONSIBILITY OF THE CONTRACTOR**

Indebtedness incurred for any cause in connection with this work must be paid by the Contractor, and the City of Harrisburg is hereby relieved at all times from any indebtedness or claim other than payments under terms of the Agreement.

#### **104.8.00 PROPERTY RIGHTS IN MATERIAL**

Nothing in the Agreement shall be construed as vesting in the Contractor any right to the property or in the material used after they have been attached or affixed to the work or the soil and accepted by the City of Harrisburg. All such materials shall become the property of the City of Harrisburg upon being so attached or affixed and accepted.

#### **104.9.00 COOPERATION BY CONTRACTOR**

##### **GENERAL – THE CONTRACTOR SHALL:**

- Keep one complete set of Contract Documents available on the Project site at all times.
- Cooperate in good faith with the Engineer, Inspectors, and other Contractors in performance of the Work.
- Provide access, facilities and assistance to the Engineer in establishing such line, grades and points as the Engineer requires.
- Carefully protect and preserve the Engineer's marks and stakes.
- Provide all assistance reasonably required by the Engineer to obtain information regarding the nature, quantity, and quality of any part of the Work.
- Allow the Engineer reasonable access to the Contractor's books and records at all times. To the extent permitted by public records laws, the Engineer will make reasonable efforts to honor the Contractor's request for protection of confidential information.
- Furnish the Engineer all data necessary to determine the actual cost of all, or any part, of the Work.
- Diligently pursue progress of the Work according to the schedule requirements of the Contract and specifications.
- Coordinate and control all Work performed under the Contract, including without limitation the Work performed by Subcontractors.
- Allow the City of Harrisburg to perform other work on or near the Project Site, including without limitation any Materials site, with forces other than those of the Contractor.

#### **104.10.00 FACILITIES AND SANITATION**

If required by law, the necessary sanitary conveniences, properly secluded from public observation, shall be erected and maintained by the Contractor at all times while people are employed on the work; and use of such sanitary conveniences shall be strictly enforced. The location of such conveniences shall be approved by the City Engineer.

#### **104.11.00 EMPLOYEES**

The Contractor shall employ only competent skillful workers to do the work. The Contractor shall at all times enforce strict discipline and good order among his/her employees. The Contractor shall comply with all applicable labor rules, wage scales, and regulations, including nondiscriminatory laws, of the Government of the United States, the State, County, and City or Town in which the work is to be done.

### **105 OREGON LAW – CIVIL RIGHTS – WAGE LAWS**

#### **105.0.01 COMPLIANCE TO STATE ORS CHAPTER 279 & ATTORNEY GENERAL MODEL RULES**

When the Contract Documents concern public works for the state or any county, municipality, or political subdivision, created by its laws, the applicable statutes of the State of Oregon shall apply. For this reason, Chapters 279A, 279B and 279C of the Oregon Revised Statutes, as amended or superseded, including the

latest additions and revisions, are incorporated by reference as part of these Contract Documents and as further defined in the Attorney General's Model Rules. It is understood and agreed that all parties to this Project shall determine the contents of these applicable statutes and comply with their provisions throughout the performance of the Project.

#### **105.0.02 OREGON STATE ENVIRONMENTAL REQUIREMENTS**

Contractor shall comply with federal, state and local agencies ordinances, rules and regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the performance of the contract. The City reserves the right if environmental requirements (either new or existing ordinances) must be met after the award of the contract, City, in accordance with ORS 279C.525, may (a) Terminate the contract; (b) Complete the work itself; (c) Use non-City forces already under contract with the City; (d) Require that the underlying property owner be responsible for cleanup; (e) Solicit bids for a new Contractor; and (f) Issue the awarded Contractor a change order setting forth the additional work that must be undertaken. In addition, (a) City must make known environmental conditions at the construction site that may require Contractor to comply with environmental ordinances in their bid documents; (b) If not known at the time of award, Contractor shall immediately give notice of the discovered environmental condition to the City; (c) If an environmental emergency exists, City/Contractor shall follow the rules (4), (5), (6), (7) & (8) under ORS 279C.525.

#### **105.0.03 OREGON STATE PUBLIC CONTRACT PROVISIONS**

##### **Contractor Shall:**

- Make payment promptly, as due to all persons supplying to the contractor labor or material for the performance of the work provided for in the contract.
- Pay all contributions or amounts due the Industrial Accident Fund from the Contractor or Subcontractor incurred in the performance of the contract.
- Not permit any lien or claim to be filed or prosecuted against the City.
- Pay to the Department of Revenue all sums withheld from employees under ORS 316.167.
- Demonstrate that an employee drug testing program is in place. City has the right to audit and/or monitor the program. On request by the City, Contractor shall furnish a copy of the employee drug-testing program.
- Salvage or recycle construction and demolition debris, if feasible and cost-effective.

##### **Prompt Payment/Contractor Refusal to Make Payment:**

- If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a Subcontractor by any person in connection with the public improvement contract as the claim becomes due, the City may pay the claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due the Contractor by reason of the contract.
- If Contractor or a first-tier Subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this contract within 30 days after receipt of payment from the City (or in a case of Subcontractor, from Contractor), Contractor or first-tier Subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580 (4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to Contractor or first-tier Subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date when payment was received from the contracting agency or from the Contractor, but the rate of interest may not exceed 30 percent. The amount of interest may not be waived.
- If Contractor or a Subcontractor fails, neglects or refuses to make payment to a person furnishing labor or material in connection with this, the person may file a complaint with the Construction Contractors Board (CCB), unless payment is subject to a good faith dispute as defined in ORS 279C.580.
- The payment of a claim in the manner authorized in this section does not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

**Hours of Labor – Posting Hours of Labor:**

- For work under this contract, a person may not be employed for more than 10 hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency or when the public policy absolutely requires it, and in those cases, the employee shall be paid at least time and a half pay:
  - a. For all overtime in excess of eight hours in any one day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; and
  - b. For all overtime in excess of 10 hours in any one day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and
  - c. For all overtime in excess of 10 hours in any one day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and
  - d. For all work performed on Saturday and on any legal holiday specified in ORS 279C.540.
- Contractor is not required to pay overtime if the request for overtime pay is not filed within 30 days of completion of the Contract if Contractor has posted and maintained in place a circular with the information contained in ORS 279C.545 as required by ORS 279C.545(1).
- Contractors and Subcontractors must give notice in writing to employees who perform work under this contract, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.

**Medical Coverage to Employees:**

- Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care services or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums that Contractor agrees to pay for the services and all moneys and sums that the Contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services.

**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 exempt under ORS 656.126. Contractor shall insure that each of its Subcontractors comply with these requirements.

**Recycle Materials:**

- Contractor will utilize where applicable, recycled materials if (a) The recycled product is available; (b) the recycled product meets applicable standards; (c) the recycled product can be substituted for a comparable non-recycled product; and (d) The recycled product's costs do not exceed the costs of non-recycled products by more than five percent (5%).

**Obligation to Pay Subcontractor & Suppliers Within 10 Days:**

- Contractor shall include in each first-tier subcontract, including contracts with material suppliers, a clause that obligates Contractor to pay the first-tier Subcontractor for satisfactory performance under its subcontract within 10 days out of the amounts paid to Contractor by City under this contract, and if payment is not made within 30 days after receipt of payment from City, to pay an interest penalty as specified in ORS 279C.515 (2) to the first-tier Subcontractor. The interest penalty does not apply if the only reason the delay in payment is due to a delay in payment by City to Contractor. Contractor shall include in each of Contractor's subcontracts, a provision requiring the first-tier Subcontractor to include a similar payment and interest penalty clause and shall require Subcontractors to include similar clauses with each lower-tier Subcontractor or supplier.

**Certifications:**

- By signing the Contract, Contractor will certify that all Subcontractors performing construction work will be registered by the Construction Contractors Board (CCB) or licensed by the State Landscape Contractors Board before the Subcontractor starts work on the Project.
- By signing the Contract, Contractor will certify that it will comply with Oregon tax laws.

#### **105.0.04 TITLE VI CIVIL RIGHTS – AMERICAN WITH DISABILITIES ACT (ADA) - COMPLIANCE**

- Contractor shall comply with all applicable federal, state and local laws, ordinances, and regulations. When multiple standards apply, Contractor shall comply with the more stringent standard. Contractor shall comply with Title VI of the Civil Right Act of 1964, with Section V of the Rehabilitation Act of 1973, and with all applicable requirements of federal, state, and City civil rights and rehabilitation statutes, ordinances, rules and regulations. Contractor also shall comply with Americans with Disabilities Act of 1990 (Pub L No. 101-336), ORS 659.425, and all regulations and administrative rules established pursuant to those laws. Contractor also agrees to comply with ADA in its employment practices, and it shall perform its contractual obligations consistently with ADA requirements and regulations, state law, and applicable regulations.

#### **105.0.05 BUREAU OF LABOR & INDUSTRIES (BOLI) & DAVIS BACON PREVAILING WAGE LAWS**

- If federal dollars are in part funded for this Project, federal Davis Bacon Wage laws (Davis-Bacon Act (40 U.S.C. 3141 et seq.) and Oregon State prevailing wage laws are applicable. Contractor shall pay workers in each trade or occupation the higher of the applicable federal prevailing wage rate or applicable State prevailing wage rate. Contractor and any Subcontractors shall post the prevailing wage rates and fringe benefits as required by ORS 279C.840.
- Contractor shall furnish weekly to the City of Harrisburg, attention: Public Works Director or designee, certified statements, in writing, on a form prescribed by the Commissioner of the Bureau of Labor, certifying: (a) the hourly rate of wage paid each worker whom the contractor or the subcontractor has employed upon the public works; and (b) that no worker employed upon the public works has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the contract. If the Contractor has not filed the certified statements as required under this contract, the City of Harrisburg shall retain 25% of any amount earned by the Contractor until the Contractor has complied. The City of Harrisburg shall pay the Contractor the amount retained under this subsection within 14 days after the Contractor has filed the certified statements with the City.
- Contractor shall allow the Bureau of Labor and Industries (including federal officials if applicable) to enter the office or business establishment of Contractor at any reasonable time to determine whether the prevailing rate of wage is actually being paid and shall make payment records available to Bureau of Labor and Industries (BOLI) on request. Contractor shall require Subcontractors to provide the same right of entry and inspection.
- City will not make final payment unless the prevailing wage rate certifications are received.
- Contractor must comply with all laws and regulations relating to prevailing wages, whether or not set out in this document. Further information regarding prevailing wages, including requirements applicable to Contractor, is available at: [https://www.oregon.gov/boli/WHD/PWR/Pages/July\\_2016\\_Index.aspx](https://www.oregon.gov/boli/WHD/PWR/Pages/July_2016_Index.aspx). Information is also available by contacting BOLI @ 971-673-0839. See also BOLI requirements in the Contract document.

#### **105.0.06 FIRST-TIER SUBCONTRACTOR DISCLOSURE – ORS279C.370**

Contractor must submit a First-Tier Subcontractor's Disclosure form (part of bid documents) within two hours of the bid date and time. The First-Tier Subcontractor's form shall list those subcontractors that furnish labor in excess of 5% of bid price (must be at least \$15,000). Subcontractors with amounts over \$350,000 must be submitted regardless of the percentage. The City will submit this list to BOLI - Contractor cannot alter this list without BOLI's approval. The form is available in the bid document package.

#### **106 SAFETY**

The City of Harrisburg or City Engineer are not responsible to provide design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences or procedures required for the Contractor to perform his/her work.

The Contractor will be solely and completely responsible for conditions of the work site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Safety provisions shall conform to all applicable State, County, and local laws, ordinances and codes, and to the current safety regulations as set forth in all applicable Oregon Safety Codes.

The Contractor shall also comply with "U.S. Department of Labor Occupational Safety and Health Act" (OSHA), the "Construction Safety Act" administered by the U.S. Department of Labor, the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, and the "Manual on Uniform Traffic Control Devices", except where these are in conflict with state laws, in which case the more stringent requirements shall be followed.

The Contractor shall maintain at his/her office or other well-known place at the work site, all articles necessary for giving first-aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of all persons (including employees) who may be injured on the work site.

The duty of the City Engineer to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the City Engineer and the City of Harrisburg. In addition, the Contractor must promptly report in writing to the City Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the City Engineer, giving full details of the claim.

#### **107 PROTECTION OF PROPERTY**

The Contractor shall adopt every practical means and comply with all laws, ordinances, and regulations in order to minimize interference to traffic and inconveniences, discomfort, and damage to the public, including the provision of adequate dust control measures. All obstructions to traffic shall be guarded in accordance with the "Manual on Uniform Traffic Control Devices."

The Contractor shall not trespass upon private property and shall be responsible for all injury or damage to persons or property, directly or indirectly, resulting from his/her operations in completing this work. He/she shall comply with the laws and regulations of the City of Harrisburg, County and State, relating to the safety of persons and property, and will be held responsible and required to make good any injury or damage to persons or property caused by carelessness or neglect on the part of the Contractor or Subcontractor(s), or any agent or employee of either during the progress of the work and until its final acceptance.

The Contractor shall protect against injury any pipes, conduits, utilities, lawns, gardens, shrubbery, trees, fences, or other structures or property, public and/or private, encountered in this work except as stipulated elsewhere herein. The Contractor shall be responsible and liable for any damage to such pipe, structure, and property.

The Contractor shall protect this work and materials from damage due to the nature of the work, the elements, carelessness of other contractors, or from any cause until the completion and acceptance of the work. All loss or damages arising out of the nature of the work to be done under the terms of these Contract Documents, or from any unforeseen obstruction or defects which may be encountered in the prosecution of the work, or from the action of the elements, shall be sustained by the Contractor.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the City Engineer, is hereby obligated to act, at his/her discretion, to prevent such threatened loss or injury; and he/she shall so act, without appeal, if so instructed or authorized. Any compensation claimed by the Contractor on account of emergency work shall be determined by agreement or as covered under the Section "Change Orders."

### **108 MATERIALS AND APPLIANCES**

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new of USA domestic manufacture and/or foreign manufacture (defined as manufactured outside of the USA) that meets all the ASTM, APWA, Federal Requirements, State Code Requirements, Local City and County Code Requirements that are applicable for the specific materials supplied; and that both the workmanship and materials be of good quality. If the Project is designated as part of a Federal Grant, Contractor will comply to the "Buy America" requirements in all respects. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of the materials.

All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

**Substitution and "Or-Equal" Products – Submittals:** Whenever material or equipment are specified or described in the Contract Documents by using the name of a particular manufacturer or supplier, the naming of the item is intended to establish the type, function, and quality required and If the specifications, law, ordinance or applicable rules or regulations permit Contractor to furnish or use a substitute that is equal to any material or equipment specified and if Contractor wishes to furnish to use a proposed substitute, he shall make written application to City Engineer for approval of such a substitute certifying in writing that the proposed substitute will perform adequately the functions called for by the general design, be similar and of equal substance to that specified and be suited to the same use and capable of performing the same function as that specified; stating whether or not its incorporation in or use in connection with the project is subject to the payment of any license fee or royalty; and identifying all variations of the proposed substitute from that specified and indicating available maintenance service. No substitute shall be ordered or installed without the written approval of City Engineer who will be the judge of equality and may require Contractor to furnish such other data about the proposed substitute, as he considers pertinent. No substitute shall be ordered or installed without such performance guarantee and bonds as City of Harrisburg may require which shall be furnished at Contractor's expense.

Sufficient information on the proposed substitution must be provided by Contractor to the City Engineer to allow the Engineer reasonable time to determine that the material or equipment proposed is equivalent or equal to the named manufacturer's material or equipment. The proposed substitutes or "or equal" shall be submitted, including other equipment that has been specified in the contract documents, to the City Engineer for approval in conformance to the following submittal requirements/procedures/format: (1) The burden of proof as to the type, function, and quality of any substitute material or equipment shall be upon the Contractor; (2) The Engineer shall be the sole judge as to the type, function, and quality of any such substitute material or equipment, and the Engineer's decision shall be final; (3) The Engineer may require the Contractor to furnish, at the Contractor's sole expense, additional data about the proposed substitute; (4) The Owner may require the Contractor to furnish, at the Contractor's sole expense, a special five-year

performance guarantee or other surety with respect to the substitute material or equipment; (5) Acceptance by the Engineer of a substitute item proposed by the Contractor shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents and the adequacy of the substitute item; (6) The Contractor shall be responsible for resultant changes and all additional costs (including redesign) which the accepted substitution requires in the Contractor's Work; (7) The evaluation and acceptance of the proposed substitute shall not prejudice the Contractor's achievement of substantial completion on time; and



(8) Contractor must furnish available maintenance, repair and replacement costs for the substituted equipment.

In selecting and/or approving equipment for installation in the project, the City of Harrisburg and City Engineer assume no responsibility for injury or claims resulting from failure of the equipment to comply with applicable National, State, and Local safety codes or requirements, or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials. The City reserves the right to reject any materials that cannot be certified to meet the applicable codes for the specific product or reject those materials that did not meet the specifications in the Contract Documents; the Contractor will remove and replace such materials with no cost to the City.

#### **108.1.00 MATERIALS FURNISHED BY THE CITY OF HARRISBURG**

All materials and/or services furnished by the City of Harrisburg shall be obtained by the Contractor as indicated in these Contract Documents. The cost of handling and placing City of Harrisburg furnished materials shall be included in the price paid for the Agreement item involving such material.

#### **108.2.00 SAMPLES, TESTING AND INSPECTION**

All materials to be incorporated in the work shall be subject to sampling, testing, and approval. Samples furnished by the Contractor shall be representative of the materials to be used. The City Engineer may select samples or may require that samples to be delivered to and tested as required by the Specifications at the laboratory of the City Engineer, at no additional cost to the City of Harrisburg.

All sampling and testing of materials shall be done in accordance with the latest designated standard methods of AASHTO, ASTM, etc., or in accordance with special methods designated in the Specifications.

The Contractor shall furnish, without extra charge, the necessary test pieces and samples, including facilities and labor for obtaining the same, as requested by the Engineer. When required, the Contractor shall furnish certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory. The City Engineer and his/her representatives and authorized representatives of public agencies shall at all times have access to the work wherever it is in preparation or progress, and the Contractor shall provide facilities for such access and for inspection, including maintenance of temporary and permanent access routes.

If the Specifications, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the City Engineer timely notice of its readiness for inspection. If the inspection is by authority other than the City Engineer's, the City Engineer shall be given timely notice of the date fixed for such inspection. Inspections by the City Engineer will be promptly made, and where practicable, at the source of supply. If any work should be covered without approval or consent of the City Engineer, it shall, if required by the City Engineer, be uncovered for examination at the Contractor's expense.

Re-examination of questioned work may be ordered by the Engineer; and, if so ordered, the work shall be uncovered by the Contractor. If such work is found not in accordance with the Contract Documents, the Contractor shall correct the defective work at no additional cost to the City of Harrisburg.

Neither observations by City Engineer nor inspections, tests, or approvals by persons other than the Contractor shall relieve Contractor from his/her obligations to perform work in accordance with requirements of the Contract Documents.

#### **108.3.00 CONTRACTOR'S RESPONSIBILITY FOR MATERIALS**

##### **108.3.01 Responsibility For Material Furnished By Contractor**

The Contractor shall be responsible for all materials furnished by him/her. All such material shall be examined by a City Representative and any material not meeting Specifications, or that is defective in manufacture, or that has been damaged after delivery, shall be replaced by the Contractor at his/her expense.

### **108.3.02 Responsibility for Material Furnished By City**

The Contractor's responsibility for material furnished by the City shall begin upon Contractor's acceptance at the point of delivery to him/her. All such material shall be immediately examined, and material defective in manufacture and/or otherwise damaged shall be rejected by the Contractor at the time and place of delivery to him/her, to be replaced by the City. Once accepted by the Contractor, defective and/or damaged material discovered prior to final acceptance of the work shall be removed by the Contractor and he/she shall replace, at his/her own expense, the defective material. In such case the Contractor shall furnish all labor, equipment and material incidental to replacement and necessary for the completion of the work to the satisfaction of the Engineer.

### **108.4.00 CONSTRUCTION STAKING**

City will provide surveying services and construction staking.

#### **108.4.01 THE SURVEYOR**

The Engineer will be the Surveyor and is responsible for establishing proper grades, slopes, and elevations for the project.

#### **108.4.02 CITY RESPONSIBILITIES**

The City will:

- Lay out and set construction stakes and marks to establish the lines, grades, Slopes, Cross Sections, and curve super-elevations for roadwork;
- Provide one set of construction stakes for line and grade for each additional phase of the Work;
- Deduct from payments due the Contractor all costs incurred to replace stakes and marks negligently or intentionally damaged, removed, or destroyed by the Contractor.

#### **108.4.03 Contractor Responsibilities**

The Contractor shall:

- Inform the Surveyor of staking requirements at least five Calendar Days before the staking needs to begin;
- Coordinate construction to provide sufficient area for the Surveyor to perform Surveying work efficiently and safely;
- Accurately measure detailed dimensions, elevations, and Slopes from the Surveyor's stakes and marks;
- Perform the Work in such a manner as to preserve stakes and marks; and
- Set any reference lines for automatic control from the control stakes provided by the Surveyor

## **109 CONTRACT LEGALITIES**

### **109.1.00 PERMITS AND LICENSES**

The Contractor shall keep himself/herself fully informed of all local ordinances. State and Federal laws, ordinances and regulations, in any manner affecting the work herein specified. He/she shall, at all times, comply with said ordinances, laws, and regulations, and protect and indemnify the City of Harrisburg and officers and agents against any claim or liability arising from or based on the violation of such laws, ordinances, or regulations. Permits and licenses of a temporary or construction nature including government charges and inspection fees necessary for the prosecution of the work shall be secured and paid for by the Contractor. Easements and rights-of-way shall be secured and paid for by the City of Harrisburg, unless otherwise stipulated in the plans and specifications. Further defined as follows:

#### **Contractor Permits and Licenses – Contractor Shall:**

- Obtain all necessary permits and licenses, except those noted below by City;
- Pay all applicable charges, fees and taxes, except those noted below by City;
- Give all notices required by applicable laws, or under the terms of the Contract;
- Obtain all building specialty work permits: ex: heating, ventilation, air conditioning, electrical, etc.
- Comply with ORS 274.530 relating to lease of stream beds by Oregon Div. of State Lands;
- License, in the State of Oregon, all vehicles subject to licensing;

- Comply with ORS 477.625 and ORS 527.670 relating to clearing & fire hazards on forest lands; &
- Comply with all orders and permits issued by a governmental authority, whether local, State, or federal.

**City Permits and Licenses – City Shall:**

- Obtain necessary Rights-of-Way permits – except unless required to be obtained in the name of the Contractor;
- Obtain permits required for crossing or encroaching upon navigable streams;
- Obtain permits required for removing materials from or depositing materials in waterways;
- Obtain permits required for operating in City-controlled source of Materials or disposal area;
- Pay the City's System Development Charges (SDC's);
- Obtain building construction permits, not including specialty work as noted above; and
- Obtain environmental permits, including erosion control permits.

**109.2.00 ROYALTIES AND PATENTS**

The Contractor shall pay all royalty and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the City of Harrisburg harmless from loss on account thereof, except that the City of Harrisburg shall be responsible for all such loss when a particular process or the product of a particular manufacturer or manufacturers is specified; but if the Contractor has information that the process or article specified is an infringement of a patent, he/she shall be responsible for such loss unless he/she promptly gives such information to the City Engineer or City of Harrisburg.

**109.3.00 TAXES AND CHARGES**

The Contractor agrees to withhold and pay any and all withholding taxes, whether State or Federal, sales tax, and to pay all Social Security charges and also all State Unemployment Compensation charges, and to pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever which are now or may hereafter be required to be paid or withheld under any laws.

**109.4.00 HOLD HARMLESS**

Contractor shall defend, indemnify, and hold the City, its officers, agents and employees, harmless against all liability, loss, or expenses, including attorney's fees, and against all claims, actions or judgments based upon or arising out of damage or injury (including death) to persons or property caused by or resulting from any act or omission sustained in connection with the performance of the Contract/Agreement or by conditions created thereby, or based upon violation of any statute, ordinance or regulation or related to the following:

- 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.
- 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.
- 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 of expense is caused in part by a party indemnified hereunder.
- Any lien filed upon the project or bond claim in connection with the Work.

In claims against any person or entity indemnified under this Subsection 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 this Subsection shall not be limited by a limitation or amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefits acts or other employee benefit acts.

#### **109.5.00 UNFORESEEN DIFFICULTIES**

The Contractor shall protect his/her work and materials from damage due to the nature of the work, the elements, carelessness of other contractors, or from any cause whatever until the completion and acceptance of the work. All loss or damage arising out of a nature of the work to be done under these Contract Documents, or from any unseen obstruction or defects which may be encountered in the prosecution of the work, or from the action of the elements shall be sustained by the Contractor.

#### **109.6.00 CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT**

If the work should be stopped under an order of any court or other public authority for a period of three (3) months, through no act or fault of the Contractor or of anyone employed by him/her; or if the City Engineer should fail to issue any estimate for payment within thirty (30) days after it is due; or if the City of Harrisburg should fail to pay the Contractor within thirty (30) days after the time specified in the paragraph "Partial Payment" of the Section "Payment" any sum certified by the City Engineer, then the Contractor may, upon fifteen (15) days written notice to the City of Harrisburg and the City Engineer, stop work or terminate this Agreement and recover from the City of Harrisburg payment for all work executed and any loss sustained upon any plant or material and reasonable profit and damages, unless said default has been remedied within said time.

#### **109.7.00 WARRANTIES**

All work shall be guaranteed for a period of one (1) year against defects in materials and workmanship. Contractor unconditionally warrants all work and materials for this Project, including additional work authorized under change orders, against any defects whatsoever, for one (1) year from the date of acceptance by the City of Harrisburg, except that manufacturers' warranties and extended manufacturer warranties as specified in the contract documents or otherwise is a standard manufacturer product warranty shall not be abridged – such unexpired manufacturer warranties and guarantees shall be transferred to and enforceable by the City of Harrisburg. In addition to its right to proceed on the warranty, the City may recover for breach of contract or negligence even if defects do not become evident during the warranty period. The Contractor also agrees to hold the City of Harrisburg harmless from claims of any kind arising from damage due to said defects. In addition:

- Contractor shall perform all work in accordance with all specifications for the Project and warrants that all completed work meets all Project specifications, correcting any work at his/her own expense not in compliance with specifications, and for all repairs of damage to other improvements, natural and artificial structures, systems, equipment, and vegetation caused by, or resulting in whole or in part from occurrences beginning during the warranty period and are the result of defects in construction of materials installed under the contract. Contractor shall be responsible for all costs associated with site cleanup and remediation caused by, or resulting in whole or in part from, defects in its work or materials.
- Within ten (10) calendar days of the City's written notice of defects, Contractor or Contractor's Surety shall start repair of the defects and all related damage. If Contractor or Contractor's Surety fails to correct and repair the defects in a timely manner, the City may have the correction and repair done by others. Contractor or Contractor's Surety shall promptly reimburse the City for all expenses incurred to correct and repair the defects.
- In case of emergency where delay could result in serious loss or damage, the City may make emergency corrections and repairs, without written notice. Contractor or Contractor's Surety shall promptly reimburse the City for all expenses incurred to correct and repair the defects.
- All work done to comply with the warranty shall itself be warranted for one year beginning on the date of the City's acceptance of the corrections, repairs, replacements or changes.
- The warranty provision shall survive expiration or termination of the Contract.

#### **109.8.00 RELEASE OF LIENS**

On public projects, neither the final payment nor any part of the retained percentage shall become due until the Contractor submits to the City of Harrisburg a signed affidavit, satisfactory to the City of Harrisburg, stating that so far as he/she (the Contractor) has knowledge or information, all accounts for materials, labor, and incidentals in connection with the work have been paid in full. The form of affidavit

shall be satisfactory to the City of Harrisburg. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the City of Harrisburg all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

#### **109.9.00 CONTRACTOR'S AND MANUFACTURER'S COMPLIANCE WITH STATE, OSHA, AND OTHER CODE REQUIREMENTS**

The completed work shall include all necessary permanent safety devices such as machinery guards and similar ordinary safety items required by the State and Federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the work (including City of Harrisburg selected equipment) subject to such safety regulations shall be fabricated, furnished, and installed in compliance with these requirements. Contractors and manufacturers of equipment shall be held responsible for compliance with the requirements included herein.

#### **109.10.00 BOND REQUIREMENTS**

##### **109.10.01 BID SECURITY - BID BOND**

When so designated by the Project Manager/City Engineer, in the Contract Documents, and or as advertised, the Contractor shall furnish a certified check, cashier's check, or surety bond in the amount of 5% of their bid price to guarantee their bid price for the project designated in these documents. In the event Contractor will not honor their bid price, if chosen for the project, the bid bond will be forfeited to the City. If the certified check, cashier's check or surety bond in the amount of 5% (or more) of the bid price is not submitted with the bid, the bid will be rejected.

##### **109.10.02 PAYMENT AND PERFORMANCE BONDS**

Contractor, prior to the execution of the contract, shall provide a separate Payment Bond and a separate Performance Bond in a form acceptable to the City of Harrisburg. Each bond shall be equal to 100% of the contract amount. The Payment Bond and Performance Bond must be signed by the Surety's Attorney-in-Fact, and the Surety's seal must be affixed to each bond. Bonds shall not be canceled without the City of Harrisburg's consent, nor will the City release them prior to Contract completion. Bonds must be originals – faxed or photocopied bond forms will not be accepted.

##### **109.10.03 PUBLIC WORKS BOND**

Contractor will file with the Construction Contractor's Board (CCB) a Public Works Bond with a corporate surety authorized to do business in the State of Oregon in the amount of \$30,000 prior to starting work on the project. Contractor will make themselves aware of the provisions of ORS 279C.600 and ORS 279C.605 relating to notices of claim and payment of claims on Public Works Bonds.

##### **109.10.04 WARRANTY BOND – SUPPLEMENTAL WARRANTY PERFORMANCE BOND**

Contractor will furnish a warranty bond, from its Surety, as a guaranty of the Contractor's performance of its warranty obligations; And if the Project requires a coating system, a coating system warranty (reservoir tanks, etc.) is required, in addition to the regular Performance Bond in the sum of 80% of the full contract amount. The bond is to secure the performance by the Contractor of correction work on any coating system defects that the Contractor may be directed by the City of Harrisburg to perform. Upon Third Notification, the supplemental warranty performance bond shall become effective and shall continue in full force and effect until the City of Harrisburg has advised the Contractor that: (1) There are no coating system defects; or (2) If the Contractor has been notified that there are coating system defects, the defects have been repaired by the Contractor to the satisfaction of the City as specified under the coating system warranty and the full warranty period has expired.

#### **110 PROGRESS OF THE WORK**

##### **110.1.00 BEGINNING OF THE WORK**

Before work shall be started and materials ordered, the Contractor shall meet and consult with the City Engineer relative to materials, equipment, and all arrangements for prosecuting the work. The Contractor shall commence the work contemplated under these Contractor Documents within three (3) days after the City of Harrisburg's written notice to proceed unless otherwise notified by the City Engineer, and shall complete the work within the time specified in the Agreement, it being expressly understood and agreed that the time of beginning, rate of progress, and time of completion of the work are of the essence of this Agreement.

### **110.2.00 PROSECUTION OF THE WORK**

The work shall be prosecuted at such time, and in or on such part or parts of the project as may be required, to complete the project as contemplated in the Contract Documents. Time/schedule/completion is as set forth in the contract. Upon starting construction, the Contractor shall diligently and continuously pursue completion of the work with adequate crew and equipment. Should the Contractor, without the express approval of the Engineer, reduce his/her effort, it shall be considered a failure of the Contractor to complete the work in the time agreed upon. As such it shall fall under the provisions of 110.9.00 LIQUIDATED DAMAGES and liquidated damages may be assessed for each day of reduced operations. It is expressly understood and mutually agreed between all parties to the Agreement that the City Engineer shall not determine or be responsible for construction methods.

The Contractor shall perform the work and take such precautions as he/she may deem necessary to complete the project so all work will be in conformance with the Contract Documents/specifications within the Contract time.

If the Contractor desires to carry on work at night or outside the regular hours, he/she may submit application to the City Engineer; but he/she shall allow ample time to enable satisfactory arrangements to be made for inspecting the work in progress. If granted permission, he/she shall light the different parts of the work in a manner satisfactory to the City Engineer and shall comply with all regulations of the City or State or other public body having jurisdiction.

The Contractor shall complete the work called for under the contract in all parts and requirements within the number of workdays, or before the completion date, as set forth in the contract.

The Contract workday requirement shall take precedence over other completion dates that may be referred to in these documents.

Where such case applies, a notice to proceed may be issued to the Paving Contractor when individual streets have been constructed and approved for base rock by the Engineer. Once the base rock has been delivered and spread, it shall be the Paving Contractor's responsibility to maintain the surface, including blading and watering as may be required. It is the intent of these Specifications that paving commence immediately following the placement of base rock.

### **110.3.00 COOPERATION WITH UTILITIES**

The Contractor is responsible for coordinating with utility owners. Before the Contractor performs any excavation he/she is to contact the Oregon Utility Notification Center at 1-800-332-2344 at least forty-eight (48) hours prior to excavation. Subject to the Engineer's approval, the Contractor may adjust the Utilities by asking the Utility owners to move, remove, or alter their facilities in ways other than as shown on the Plans or in any Supplemental Specifications. The Contractor shall conduct all negotiations, make all arrangements, and assume all costs that arise from such changes. The Contractor shall conform to the requirements of ORS 757.541 through 757.993 and with the rules of the Oregon Utility Notification Center, OAR 952-001-0010 through OAR 952-001-0090. The Contractor may contact the Oregon Utility Notification Center at 503-232-1987 about these rules.

### **110.4.00 MAINTAINING TRAFFIC**

The Contractor shall adopt reasonable means and comply with all laws, ordinances, and regulation in order to minimize interference to traffic; be responsible to maintain two-way traffic at all times unless otherwise specified. The streets shall be open for two-way traffic at all times when the Contractor is not performing work unless otherwise specified. Approaches to all properties accessing to the project shall be maintained by the Contractor at all times except for short periods necessary to the progress of the construction. Contractor, in addition, shall provide adequate noise control and control all obstructions to traffic in accordance with the manual on uniform traffic control devices if applicable.

#### **110.4.01 PUBLIC SAFETY AND CONVENIENCE**

The Contractor shall conduct the project with proper regard for the safety and convenience of the public. When the project involves use of public ways, the Contractor shall provide certified Flaggers when directed, a temporary traffic control plan approved by the City Engineer, and install and maintain means of free access to all fire hydrants, service stations, warehouses, stores, houses, garages and other property.

Private residential driveways shall be closed only with approval of the Engineer or specific permission of the property owner. The Contractor shall not interfere with normal operation of public transit vehicles unless otherwise authorized. The Contractor shall not obstruct or interfere with travel over any public street or sidewalk without approval. Where detours are necessary, they shall be maintained with good surface and shall be clearly marked. The Contractor shall provide open trenches and excavations with adequate barricades of an approved type, which can be seen from a reasonable distance. At night, the Contractor shall backfill all open work and mark areas with signs and lighted barricades (Type A Low Intensity Flashing Warning Light on a Type I or II barricade, typical) in accordance with the MUTCD. The Contractor shall install and maintain all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges and facilities. The Contractor shall observe all safety instructions received from the Engineer or governmental authorities, but following of such instructions shall not relieve the Contractor from the responsibility or liability for accidents to workers or damage or injury to person or property.

Emergency traffic such as police, fire and disaster units shall be provided reasonable access to the work area at all times. The Contractor shall be liable for any damages, which may result from failure to provide such reasonable access or failure to notify the appropriate authority.

#### **110.4.02 PUBLIC SAFETY – USE OF EXPLOSIVES**

Contractor shall comply with all Laws pertaining to the use of explosives. The Contractor shall notify anyone having facilities near the Contractor's operations of Contractor's intended use or storage of explosives. The Contractor shall be responsible for all damage resulting from its own, its agents and employees; and its Subcontractors' use of explosives.

#### **110.5.00 ASSIGNMENT**

Contractor shall not assign or transfer its interests in the Contract without written consent of City, which consent may be withheld in the City's sole, subjective discretion; nor shall the Contractor assign any monies due or to become due to him/her hereunder without the previous written consent of the City of Harrisburg.

#### **110.6.00 CITY OF HARRISBURG'S RIGHT TO DO WORK**

If the Contractor should, in the opinion of the City Engineer, neglect to prosecute the work properly or should neglect or refuse at his/her own cost to take up and replace work that has been rejected by the City Engineer, then the City of Harrisburg shall notify the Surety of the condition and after ten (10) days written notice to the Contractor and the Surety, or without notice if an emergency or danger to the work or public exists, and without prejudice to any other right which the City of Harrisburg may have under the Agreement, take over that portion of the work which has been improperly executed and make good the deficiencies and deduct the cost thereof from the payments then or thereafter due the Contractor.

#### **110.7.00 CITY OF HARRISBURG'S RIGHT TO TERMINATE AGREEMENT**

According to the City's procedure, and upon the Engineer's recommendation that sufficient cause exists, the City, without prejudice to any of its other rights or remedies and after giving the Contractor and the Contractor's Surety ten (10) calendar days' written notice may terminate the Contract and take possession of the materials and equipment in accordance with the Contract section titled "Termination of Contract and Substituted Performance" - this section is in force for this Project.

#### **110.8.00 DELAYS AND EXTENSION OF TIME**

If the Contractor shall be delayed at any time in the progress of the work by any act or neglect of the City of Harrisburg or the City Engineer, or of any employee of either; or by any separate contractor employed by the City of Harrisburg; or by changes ordered in the work; or by strikes, lockouts, fire, unavoidable casualties, or any cause beyond the Contractor's control which justified the delay, or by

delay authorized in writing by the City Engineer, then the date for completion of the work shall be extended. Within 14 days after the Contractor submits to the City Engineer a written request for an extension of time, the City Engineer will determine the number of days extension due to the Contractor. The City of Harrisburg will make the final decision on all requests for extension of time.

No such extension shall be made for delays occurring more than seven (7) days before claim therefore is made in writing to the City Engineer. In case of a continuing cause of delay, only one claim is necessary.

If no schedule or agreement stating the date upon which supplemental drawings shall be furnished by the City Engineer is made, then no claim for delay shall be allowed the Contractor on account of failure to furnish drawings until two (2) weeks after demand for such drawings, and not then unless such claim be reasonable. No extension of time will be granted to the Contractor for delays occurring to parts of the work that have no measurable impact on the completion of the total work under this Agreement.

No extension of time will be considered for weather conditions normal to the area in which the work is being performed. Unusual weather conditions, if determined by the City Engineer to be of a severity that would stop all progress of the work, may be considered as cause for an extension of Agreement completion time.

Delays in delivery of equipment or material purchased by the Contractor or his/her Subcontractors (including City of Harrisburg selected equipment) shall not be considered as a just cause for delay. The Contractor shall be fully responsible for the timely ordering, scheduling, expediting, delivery, and installation of all equipment and materials.

The contract time may only be changed by a Change Order.

#### **110.9.00 LIQUIDATED DAMAGES**

CONTRACTOR recognizes and acknowledges that the City will incur significant additional expenses and costs in staff time, administration and overhead ("Additional Internal Costs") as a result of any delay by Contractor in completing all work by the completion date established by this contract. Contractor agrees that it is liable for the City's Additional Internal Costs resulting from any delay in completion of the work. Contractor recognizes that, in addition to Additional Internal Costs, the City will incur additional costs and expenses as a result of any delay in completion of all work under this contract as the result of the necessity for City to retain other contractors, consultants and engineering and/or design firms ("Additional External Costs") in the event of any delay in completion of the Work. Contractor agrees that it is liable for the City's Additional External Costs resulting from any delay in completion of the work. In addition, City will incur additional costs in the event of delay in completion of work under this contract because City would be unable to utilize the new facility to be constructed under this contract or to utilize services to be provided under this contract. ("Loss of Use" costs.) Contractor agrees that it is liable to City for Loss of Use costs resulting from a delay in completion of the work. The City and Contractor agree that the amount of damages resulting from a delay in completion of the work is uncertain and in an amount of damages that will be difficult to prove. The Contractor and the City agree that it is appropriate to liquidate damages in advance, due to the uncertain nature of the amount of damages that City will incur in the event that Contractor fails to complete all work by the scheduled completion date. Contractor is required to provide public facilities and/or services that are vital to the health, safety and welfare of the general public. City's costs for protecting the health, safety and welfare in the event that the work is not completed by the scheduled completion date will be substantial. Contractor and City agree that the amount of liquidated damages provided by this contract is reasonable, specifically bargained for, and not a penalty. Contractor further agrees that it will not challenge the amount or the imposition of these damages in any action seeking to enforce these damages.

It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work by the designated completion date shall be \$1,000.00 (one thousand dollars) for each workday the work exceeds the number of workdays specified.



The City of Harrisburg is authorized to deduct the amount of such damages from any monies due the Contractor for work performed or material furnished under this Agreement; and the Contractor and his/her Sureties shall be liable for any excess.

**110.10.00 OTHER CONTRACTS**

The City of Harrisburg reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and execution of their work and shall properly connect and coordinate his/her work with theirs.

If any part of the Contractor's work depends, for proper execution or results, upon the work of any other contractor, the Contractor shall inspect and promptly report to the City Engineer any defects in such work that render it unsuitable for such proper execution and results. His/her failure to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his/her work, except as to defects which may develop in the other contractor's work after execution of his/her work.

**110.11.00 USE OF PREMISES**

City of Harrisburg shall furnish, as indicated in the Contract Documents and not later than the date when needed by Contractor, the lands upon which the work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the City of Harrisburg, unless otherwise specified in the Contract Documents. If Contractor believes that any delay in City of Harrisburg furnishing these lands or easements entitles him/her to an extension of the Contract Time, he may make claim therefore. The Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

The Contractor shall confine his/her equipment, the storage of materials, and the operation on his/her workmen to limits shown on the plans or indicated by law, ordinances, permits, or directions of the City Engineer, and shall not unreasonably encumber the premises with his/her materials.

**110.12.00 USE OF COMPLETED PORTIONS**

The City of Harrisburg shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions, which may not have expired. Such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents. If such prior use increases the cost of the work, or delays the completion of the work, the Contractor shall be entitled to extra compensation or an extension of time, or both. Should such condition or conditions prevail, the Contractor shall submit his/her claim for additional compensation or extension of time, in writing, to the City Engineer. The City Engineer will review the claim and determine its validity.

**110.13.00 CUTTING AND PATCHING**

The Contractor shall do all cutting, fitting, or patching of his/her work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by the plans.

**110.14.00 CLEANING UP**

Cleaning up shall be a continuing process from the start of work to final acceptance of the project. The Contractor shall, at all times, at his/her own expense and without further order keep property on which work is in progress free from accumulations of waste material or rubbish caused by employees or by the work, and at all times during the construction period shall maintain structure sites, rights-of-way, adjacent property, and the surfaces of streets and roads on which work is being done in a safe condition for the Contractor's workers, and the public. Accumulation of waste materials that might constitute a fire hazard will not be permitted. Spillage from the Contractor's hauling vehicles on traveled public or private roads and parking areas shall be promptly cleaned up. Upon completion of the construction, the Contractor shall, at his/her own expense, remove all temporary structures, rubbish, and waste materials resulting from his/her operations.

Upon failure of the Contractor to provide cleanup within 24 hours of being so directed by the Engineer in writing, the City, or an agent retained by the City, may complete the cleanup and the cost thereof plus 10% for handling shall be deducted from any payment due the Contractor.

#### **110.15.00 CHANGES IN QUANTITY**

The City of Harrisburg reserves the right to increase or decrease quantities without limit or to omit portions of the work without invalidating said proposal or re-negotiating the unit bid price.

#### **110.16.00 PERFORMANCE TESTING**

Operating equipment and systems shall be performance tested in the presence of the City Engineer to demonstrate compliance with the specified requirements. Performance testing shall be conducted under the specified design operation conditions or under such simulated operating conditions as recommended or approved by the City Engineer. Such testing shall be scheduled with the City Engineer at least one (1) week in advance of the planned date for testing and include a factory representative on site.

#### **110.17.00 SUBSTANTIAL COMPLETION DATE**

The City Engineer may, at his/her sole discretion, issue a written notice of substantial completion for the purpose of establishing the starting date for specific guarantees, and to establish the date that the City of Harrisburg will assume the responsibility for the cost of operating such portions of the project. Said notice shall not be considered as final acceptance of any portion of the work or relieve the Contractor from completing the remaining work within the specified time and in full compliance with the Contract Documents. All equipment contained in the work, plus all other components necessary to enable the City of Harrisburg to operate the facility in the manner that was intended, shall be complete including acceptable testing as specified in these Contract Documents on the substantial completion date.

The City of Harrisburg shall have the right to exclude Contractor from the project after the date of substantial completion, but City of Harrisburg shall allow Contractor reasonable access to complete or correct remaining items of work.

### **111 PAYMENT**

#### **111.1.00 BASIS OF PAYMENT**

In consideration of the faithful performance of all the covenants, stipulations, and conditions in these Contract Documents, the City of Harrisburg will agree to pay the Contractor in the amount bid as adjusted when so stipulated in the Contractor's Proposal on the basis of the unit prices named in the Contractor's Proposal for the work actually performed as determined by the final estimate of the City Engineer, together with any amounts due for extra work not classified under the items listed in the Contractor's Proposal – See Contract terms and conditions

#### **111.2.00 CHANGE ORDERS**

Payment or credit for any alterations covered by a Change Order shall be determined by one or a combination of methods set forth in 111.3.03,

##### **111.2.01 UNIT PRICES**

If applicable, those unit prices stipulated in the Proposal or unit prices negotiated and mutually acceptable to the Contractor and City of Harrisburg.

##### **111.2.02 LUMP SUM**

A total sum for the work negotiated and mutually acceptable to the Contractor and City of Harrisburg. may be submitted to the City of Harrisburg in accordance with 111.2.00 and 111.2.01 Contractor's quotations for Change Orders shall be in writing and firm for a period of forty-five (45) days. Any compensation agreed upon, and subsequently paid by the City of Harrisburg for work defined in a Change Order shall be deemed to include all costs and expenses related to such work, including the costs and expenses to a direct, indirect, and consequential nature, or otherwise, and it is specifically

understood and agreed that no additional compensation may be subsequently sought or charged by the Contractor for the work covered by the applicable Change Order.

The City of Harrisburg's request for quotations on alterations to the work shall not be considered authorization to proceed with the work prior to the issuance of a formal Change Order, nor shall such request justify any delay in existing work.

### **111.3.03 FORCE ACCOUNT WORK**

If the method of payment cannot be agreed upon prior to the beginning of the work, and the City of Harrisburg or the City Engineer directs that the work be done by written Change Order or on a force account basis, then the Contractor shall furnish labor, equipment, and materials necessary to complete the work in a satisfactory manner and within a reasonable period of time. For the work performed, payment will be made for the documented actual cost of the following:

- **Labor**, including foremen, who are directly assigned to the force account work: (actual payroll cost, including wages, fringe benefits as established by negotiated labor agreements, labor insurance and labor taxes as established by law). No other fixed labor burden will be considered unless approved in writing by the City of Harrisburg.
- **Material** delivered and used on the designated work, including sales tax, if paid for by Contractor or his/her Subcontractor.
- **Rental** or equivalent rental cost of equipment, including necessary transportation for items having a value in excess of one hundred dollars (\$100). The current Associated General Contractors of America published equipment rental rates will be the maximum allowable rate.
- Additional **bond**, as required and approved by the City of Harrisburg.
- Additional **insurance** (other than labor insurance) as required and approved by the City of Harrisburg.

**To costs under 111.3.03 FORCE ACCOUNT WORK, there shall be added the following fixed fees for the Contractor or Subcontractor actually performing the work:**

A fixed fee of **fifteen percent (15%)** added to the cost of **labor, materials and rentals**; and

A fixed fee of **six percent (6%)** added to the cost of **bonds and insurance** above.

An additional fixed fee of **ten percent (10%)** shall be allowed the Contractor for the **administrative handling** of portions of the work that are performed by an Approved **Subcontractor**. No additional fixed fee will be allowed for the administrative handling of work performed by a Subcontractor of a Subcontractor unless by written permission from the City of Harrisburg.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, and any other general expense.

The City of Harrisburg reserves the right to furnish such materials and equipment, as it deems expedient, and the Contractor shall have no claim for profit or added fees on the cost of such materials and equipment.

For equipment that is rented as specified above, rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Rental and transportation allowances shall not exceed the current rental rates prevailing in the locality. The rentals allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, and renewals, and no further allowances will be made for those items, unless specific agreement to that effect is made.

The Contractor shall maintain his/her records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations. The Contractor shall furnish the City Engineer report sheets in duplicate of each day's force account work no later than the working day following the materials used, and shall cover the direct cost of labor and

the charges for equipment rental, whether furnished by the Contractor, Subcontractor, or other forces. The daily report sheets shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated.

Material charges shall be substantiated by valid copies of vendor's invoices for materials used in the alterations covered by Change Orders. Such invoices shall be submitted with the daily report sheets, or, if not available, they shall be submitted with subsequent daily report sheets. Said daily report sheets shall be signed by the Contractor or his/her authorized agent.

To receive partial payments and the final payment for force account work, the Contractor shall submit in a manner approved by the City Engineer, detailed and complete documented verification of the Contractor's and any of his/her Subcontractor's actual current costs involved in the force account work pursuant to the issuance of an approved Change Order. Such costs shall be submitted within thirty (30) days after said work has been performed.

No payment will be made for work billed and submitted to the City Engineer after the thirty (30) day period has expired. No extra or additional work shall be performed by the Contractor, except in an emergency endangering life or property, unless in pursuance of a written Change Order.

#### **111.4.00 CLAIMS**

If the Contractor claims that any instructions involve extra cost under this Agreement, he/she shall give the City Engineer and the City of Harrisburg written notice thereof within forty-eight (48) hours after the receipt of such instructions, and in any event before proceeding to execute the work. If such notification is not given, or if the City Engineer is not afforded proper facilities by the Contractor for keeping strict account of actual cost, then the Contractor hereby agrees to waive the claim for such additional compensation. Such notice by the Contractor, and the fact that the City Engineer has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim. Claims for additional compensation shall be made in itemized detail and submitted, in writing, to the City of Harrisburg and City Engineer within ten (10) days following completion of that portion of the work for which the Contractor bases his/her claim is found to be just. It shall be allowed and paid for as provided in the section covering Change Orders.

Engineer's decision regarding claims: Engineer will render a formal decision in writing 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. Engineer's written decision on such Claim, dispute, or other matter will be final and binding upon Owner and Contractor unless: an appeal from Engineer's decision is taken with the time limits. A written notice of intention to appeal against the Engineer's written decision will follow the formal requirements of Section 00199.40 of the 2008 Oregon Standard Specifications.

#### **111.5.00 FINAL PAYMENT**

To receive final payment, the Contractor must do the following:

- Notify the City Engineer, in writing, that he/she has completed his/her work in accordance with the Contract Documents and request final payment.
- Submit to the City of Harrisburg appropriate waivers of lien for itself and all Subcontractors and a signed affidavit, satisfactory to the City of Harrisburg, stating that so far as he/she has knowledge or information, all accounts for materials, labor, and incidentals in connection with the work have been paid in full.
- On agreements for public works, furnish to the City of Harrisburg a completed wage certification as required by ORS 279, as amended.

Within fifteen (15) days of written notice from the Contractor that the work has been completed, the City Engineer shall conduct a final inspection of the work. If the work has been completed to the satisfaction of the City Engineer, he/she shall submit a certificate of acceptance of the completed work, together

with a final estimate of the amount due the Contractor under this Agreement, less any amount to be withheld by the City of Harrisburg to ensure guarantees.

The City of Harrisburg shall, within thirty (30) days, pay to the Contractor all monies due him/her under the conditions of the Agreement upon the following:

- The City of Harrisburg's acceptance of the City Engineer's final estimate.
- The City of Harrisburg's approval of the affidavit/affidavits of the release of any and all liens.
- The receipt of all required wage certifications
- Certification by Contractor that all suppliers and subcontractors have been paid.
- Inspection and approval by all or any concerned public works of the State, of any County, Municipality or political subdivision created by law, or Public Utility.

**111.6.00 MATERIALS DELIVERED TO THE WORK SITE BUT NOT USED**

Final payment will be made only for materials actually incorporated in the work. Upon acceptance of the work, all materials stored on the site, unless otherwise agreed upon in writing, shall revert to the Contractor.

**111.7.00 ACCEPTANCE OF FINAL PAYMENT**

The acceptance by the Contractor of the final payment shall release the City of Harrisburg and the City Engineer as agent of the City of Harrisburg from all claims and all liability to the Contractor for all things done or furnished in connection with the work, and every act of the City of Harrisburg and others relating to or arising out of the work. No payment, however, final or otherwise, shall operate to release the Contractor from obligations under these Contract Documents.

**Section 420**  
**Supplementary General Conditions**

**Section 00420  
SUPPLEMENTARY GENERAL CONDITIONS  
To The  
GENERAL CONDITIONS OF THE CONTRACT**

**Contract No.** \_\_\_\_\_  
**PROJECT NAME** JUSTICE CENTER REMODEL

**For the above contract, the following supplements modify the General Conditions of the Contract Documents. Where a portion of the General Conditions is modified or deleted by these Supplemental General Conditions, the unaltered portions of the General Conditions shall remain in effect.**

**SECTION 103-THE CITY ENGINEER**

Add the following:

**103.1.01 CONTRACT CITY ENGINEER**

The City Engineer for the purposes of this contract shall be:

Branch Engineering  
310 5<sup>th</sup> Street  
Springfield, OR 97447  
ATTN: Damien Gilbert, P.E.  
541-746-0637

**SECTION 105- OREGON LAW – CIVIL RIGHTS – WAGE LAWS**

**105.0.02 Oregon State Environmental Requirements**

Add the following

Additionally, if contractor encounters cultural or archaeological materials during the course of work, work shall be immediately shut down until a professional archaeologist can be notified for an inspection. The contractor shall notify the local tribes of ongoing work and immediately notify the tribes of any potential archaeological material.

**105.05 BUREAU OF LABOR & INDUSTRIES (BOLI) & DAVIS BACON PREVAILING WAGE LAWS**

Add the following:

Prevailing wage rates are located here:  
[http://www.oregon.gov/boli/WHD/PWR/Pages/pwr\\_state.aspx](http://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx)

Use the most current Prevailing Wage Rates for Public Works Contracts in Oregon document including any amendments to the prevailing rates at time of contract initiation.

## **SECTION 109 CONTRACT LEGALITIES**

Add the following:

Contractor shall be responsible for complying with all permits and applications already obtained and acquire any remaining permits necessary to perform Work. This includes obtaining permits and providing all required fees, bonds, insurance, or other items as may be reasonably be required by permitting agencies at no additional cost.

END OF SECTION



**Section 500**  
**STANDARD SPECIFICATIONS**

## **SECTION 500**

### **CITY OF HARRISBURG STANDARD SPECIFICATIONS**

The Standard Specifications applicable to work on this project and the performance thereof, are those titled "Oregon Standard Specifications for Construction, 2018 edition", in addition to the "Oregon Standard Drawings, 2018 edition", hereinafter called "Standard Specifications" except as the same may be modified, supplemented, or superseded by the Special Provisions and Supplemental Specifications herein. The standard specifications are available at [http://www.oregon.gov/ODOT/Business/Documents/2018\\_STANDARD\\_SPECIFICATIONS.pdf](http://www.oregon.gov/ODOT/Business/Documents/2018_STANDARD_SPECIFICATIONS.pdf)

For sanitary sewer work of the project construction, if any, DEQ requires that in addition to the above specification, current DEQ Rules and Specifications will apply, and if a conflict is noted, the more stringent specification will apply. DEQ specifications are the Oregon Standard Specifications for Construction, 2018 edition.

Such Standard Specifications by this reference shall be deemed incorporated herein and made a part hereof as those fully set forth. All number references in the Special Specifications shall be understood to refer to the Section of the Standard Specifications bearing like numbers.

**END OF SECTION**

**Section 600**  
**SPECIAL SPECIFICATIONS**

**Section 600**  
**Special Specifications**

**Justice Center Remodel**

All number references in these Special Provisions shall be understood to refer to the Sections and Subsections of the Standard Specifications and Supplemental Specifications bearing like numbers and to Section and subsections contained in these Special Provisions in their entirety.

**Class of Work**

**SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC**

Comply with Section 00220 of the Standard Specifications modified as follows:

**00220.02 Public Safety and Mobility** - Add the following bullets to the end of the bullet list:

- Do not place work zone signs or supports that will block existing walkways or existing bikeways.

**SECTION 00225 - WORK ZONE TRAFFIC CONTROL**

Comply with Section 00225 of the Standard Specifications modified as follows:

**00225.05 Contractor Traffic Control Plan** - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall provide a traffic control plan (TCP). Submit the following, for approval, five calendar days before the preconstruction conference:

**(a) Contractor TCP -**

- Include the following:
- Proposed TCP showing all Traffic Control Measures (TCM) and quantities of all Traffic Control Devices (TCD).
- Proposed order and duration of the TCM.

**SECTION 00280 – EROSION AND SEDIMENT CONTROL**

Comply with Section 00280 of the Standard Specifications modified as follows:

Pay item (a) includes all erosion and sediment control materials necessary for the project or shown on the drawings. No additional payment will be made for any additional work, materials, etc. necessary to construct or maintain erosion control facilities specified or necessary to meet the conditions of permits, laws, or regulations. Erosion control lump sum pay item shall cover all necessary work to maintain adequate erosion control for the duration of the work.

**SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

Comply with Section 00310 of the Standard Specifications modified as follows:

**00310.41(a) General** - ADD the following:

Where an abutting structure or part of a structure is to be left in place, make clean, smooth, vertical cuts with a saw or other approved cutting device. Avoid operations that may damage any portion of the remaining structure.

Surfacing to be removed includes asphalt and gutter where shown on the plans.

All existing AC or PCC pavement shall be sawcut prior to repaving.

**SECTION 00490 – WORK ON EXISTING SEWERS AND STRUCTURES**

Comply with Section 00490 of the Standard Specifications modified as follows:

**00490.9 Payment** - ADD the following:

<b>Pay Item</b>	<b>Unit of Measurement</b>
(i) Pothole.....	Lump Sum

Item (i) includes excavation necessary for service connection verifications, evaluation of depth and alignment of existing utilities.

**Section 601**  
**SUPPLEMENTAL SPECIFICATIONS**

## **SECTION 02 4100**

### **DEMOLITION**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Building demolition.
- B. Selective demolition of built site elements.
- C. Abandonment and removal of existing utilities and utility structures.

##### **1.02 RELATED REQUIREMENTS**

- A. Sections 000 – 600
- E. Section 31 2323 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

##### **1.03 SUBMITTALS**

- A. See Section 400 for submittal procedures.
- B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.
- C. Safety plan for protection of Contractor's personnel and the public.

#### **PART 2 EXECUTION**

##### **2.01 SCOPE**

- A. Refer to Sheet A100 and examine site as necessary. Remove all items necessary to accommodate new work. Repair or replace items damaged or removed by this project that are outside of the Area of Work and not designated for removal.

##### **2.02 GENERAL PROCEDURES AND PROJECT CONDITIONS**

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.
  - 2. Use of explosives is not permitted.
  - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  - 4. Provide, erect, and maintain temporary barriers and security devices.
  - 5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
  - 6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.

### **2.03 EXISTING UTILITIES**

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- E. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

### **2.04 HAZARDOUS MATERIALS**

- A. Encountering hazardous materials is not expected, however contact Agency Project Manager immediately if potentially hazardous materials are encountered.

### **2.05 DEBRIS AND WASTE REMOVAL**

- A. Remove debris, junk, and trash from site.
- B. Remove from site all materials not to be reused on site; comply with requirements of Sections 000 - 600.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

**END OF SECTION**



**SECTION 03 2100  
REINFORCING STEEL**

**PART 1 – GENERAL**

**1.1 DESCRIPTION**

This section covers the work necessary to furnish, install and complete the reinforcing steel.

**1.2 SUBMITTALS**

The CONTRACTOR shall submit shop drawings with detailed placing, including but not limited to elevations at footings and column wraps, and bending lists for the ENGINEER'S approval before the reinforcement is fabricated.

**1.3 QUALITY CONTROL**

- A. Mill test certificates shall be submitted to the ENGINEER to certify that the reinforcing steel meets the specified requirements. Mill test certificates shall be furnished and paid for by the CONTRACTOR.
- B. In addition, the ENGINEER may require that test samples be taken and test certificates be furnished by a reputable material testing laboratory at the OWNER's expense.

**1.4 ADDITIONAL REQUIREMENTS**

In addition to the requirements contained herein, reinforcing steel shall conform to any additional requirements given in Section 02510 of the 2018 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION.

**PART 2 – PRODUCTS**

**2.1 DEFORMED REINFORCING BARS**

- A. Unless otherwise specified, reinforcing steel shall be Grade 60 billet steel conforming to ASTM A615.
- B. Varying grades shall not be used interchangeably in structures.
- C. All such reinforcing shall be deformed steel bars with deformations conforming to the requirements set forth in ASTM Specification A615.
- D. Steel bending processes shall conform to the requirements of ACI 318.
- E. Bending or straightening shall be accomplished so that the steel will not be damaged.
- F. Kinked bars shall not be used.
- G. Spiral reinforcement and steel wire shall be cold-drawn steel wire conforming to the requirements of ASTM A82 unless shown otherwise on the Drawings.

## **2.2 PLAIN REINFORCING BARS**

Plain reinforcing bars are not to be used.

## **2.3 SUPPORTS**

A. Bar supports shall conform to ACI 315.

B. Bar supports shall consist of approved high density "adobes", stainless steel chairs, plastic spacers or plastic shim plates.

1. Brick, broken concrete masonry units, spalls, rocks or similar materials shall not be used for support of reinforcing steel.
2. Steel chairs shall be furnished with plastic tips when incorporated into concrete exposed to view.
3. Plastic spacers shall be PRECO BARSPAN WHEELS, as manufactured by the PRECO CORPORATION or approved alternate.
4. Plastic shim plates may be used to support the plastic spacers and shall be used to support the vertical reinforcing in the corewall, unless shown otherwise on the Drawings.

C. Steel Tie Wire

Annealed steel tie wire shall be used to fasten the reinforcing steel in place.

## **PART 3 – EXECUTION**

### **3.1 REINFORCING BARS**

Comply with the specified codes and standards and Concrete Reinforcing Steel Institutes recommended practice for "placing reinforcing bars," for details and methods of reinforcement placement and supports, and as herein specified.

A. General

1. Mild steel reinforcing bars shall be furnished, cut, bent and placed as indicated on the Drawings.
2. At the time of placing concrete, all reinforcement shall be free from loose mill scale, rust, grease or other coating which might destroy or reduce its bond with concrete.
3. Steel reinforcement which is to be placed in the work shall be stored under cover to prevent rusting, and shall be placed on blocking such that no steel touches any ground surface.
4. All reinforcing steel placed in the work shall be tied together and supported in such a manner that displacement during placing of concrete and shotcrete will not occur.
5. When there is a delay in depositing concrete, reinforcement shall be reinspected and cleaned when necessary.

B. Cutting and Bending

1. Steel reinforcement shall be cut and bent in accordance with ACI 318 and with approved practices and machine methods, either at the shop or in the field.
2. Reinforcement shall be accurately formed to the dimensions indicated on the Drawings and on the bending schedule.
3. Bends for hooks on bars shall be made around a pin having a diameter not less than six times the minimum thickness of the bar.
4. All bars shall be bent cold.

C. Minimum Bar Spacing

The clear distance between parallel bars shall not be less than one and one-half times the diameter of the bars and, unless specifically authorized, shall in no case be less than one inch, nor less than the maximum size of coarse aggregate specified.

D. Concrete Cover (Minimum)

1. On all formed surfaces which will be exposed to water, ground or the elements, there shall be a nominal cover over the steel of 2 inches for bars number 6 through number 18 and 1.5 inches for bars number 5 and smaller, with an installation tolerance of + 1/4 inch. When different diameter bars cross in one face, base the cover requirement on the bar size and location that will provide the largest cover over the nearest steel to the outside surface.
2. 3 inch minimum coverage for rebar off ground or aggregate base.
3. The minimum cover over reinforcing steel for concrete construction of other facilities shall be as shown on the Drawings.
4. No "bury" or "carrier" bars will be allowed unless specifically approved by the ENGINEER.

E. Splicing

1. Except as shown or specified on the Drawings, reinforcing steel shall not be spliced at any location without specific approval by the ENGINEER. Splices in adjacent bars shall be staggered.
2. Where permitted or required, splices in reinforcing steel shall have sufficient lap to transfer full strength of the bar by bond and shear. Unless specified or shown otherwise on the Drawings, the bars at a lap splice shall be in contact with each other. In no event shall the lap length be less than indicated on the Drawings.
3. Unless specified or shown otherwise on the Drawings, bars shall be lap spliced in accordance with ACI 318 and shall be fastened together with steel tie wire.
4. Unless shown otherwise on the Drawings, where bars are to be lapped spliced at joints in the concrete, all bars shall project from the concrete first placed, a minimum length equal to the lap splice length indicated on the Drawings. All concrete or other deleterious coating shall be removed from dowels and other projecting bars by wire brushing or sandblasting before the bars are embedded in a subsequent concrete placement.

F. Supports

1. All reinforcement shall be retained in place, true to indicated lines and grades, by the use of approved bar supports.
2. The supports shall be of sufficient quantity, strength and stability to maintain the reinforcement in place throughout the concreting operations. Bar supports shall be placed no further than 4 feet apart in each direction. Supports must be completely concealed in the concrete and shall not discolor or otherwise mar the surface of the concrete. The CONTRACTOR shall be held responsible for providing the appropriate quantity and type of bar supports.
3. Do not place reinforcing bars more than two inches beyond the last leg on continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

G. Bar Tying

1. Bars shall be tied sufficiently often to prevent shifting. Bar ties shall be placed at a minimum of 50 percent of all bar intersections.

**END OF SECTION**

**SECTION 03 3000**  
**CONCRETE REFERENCES**

**PART 1 – GENERAL**

- 1.1 The following references, codes and standards are hereby made a part of this Section and all structural and miscellaneous concrete work shall conform to the applicable sections and requirements except as otherwise specified herein or shown on drawings. All Portland Cement Concrete incorporated into the Work shall be Class 5000 -  $\frac{3}{4}$ .

2018 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION

[http://www.oregon.gov/ODOT/Business/Documents/2018\\_STANDARD\\_SPECIFICATIONS.pdf](http://www.oregon.gov/ODOT/Business/Documents/2018_STANDARD_SPECIFICATIONS.pdf)

**END OF SECTION**

**SECTION 06 1000**  
**ROUGH CARPENTRY**

**PART 1 GENERAL**

**1.01 RELATED REQUIREMENTS**

**1.02 REFERENCE STANDARDS**

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2010
- C. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2010.
- D. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.

**PART 2 PRODUCTS**

**2.01 GENERAL REQUIREMENTS**

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
  - 1. Species: Douglas Fir-Larch, unless otherwise indicated.
  - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee ([www.alsc.org](http://www.alsc.org)) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

**2.02 CONSTRUCTION PANELS**

- A. Roof and Wall Sheathing: APA PRP-108, Rated Sheathing, Exterior Exposure Class, and as follows:
  - 1. Span Rating: 24/0.
  - 2. Thickness: As indicated.
  - 3. Face Plys: C-D

**2.03 ACCESSORIES**

- A. Fasteners and Anchors:
  - 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
- B. Die-Stamped Connectors: Hot dipped galvanized steel, unless noted otherwise on drawings, sized to suit framing conditions.
  - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A653/A653M, unless noted otherwise.

2. See structural drawing notes for type and manufacturer. No substitutions.
- C. Water-Resistive Barrier: 60 minute water-resistive Kraft building paper.

#### **2.04 FACTORY WOOD TREATMENT**

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION – GENERAL**

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

#### **3.02 FRAMING INSTALLATION**

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes.

#### **3.03 ROOF-RELATED CARPENTRY**

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

#### **3.04 CLEANING**

- A. Waste Disposal: Comply with applicable regulations. Haul debris off site to legal disposal facility appropriate for the material. Burning not allowed.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

**END OF SECTION**

## SECTION 06 4113

### WOOD-VENEER-FACED ARCHITECTURAL CABINETS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Architectural wood cabinets.
  - 2. Wood furring, blocking, shims, and hanging strips for installing architectural wood cabinets unless concealed within other construction before cabinet installation.
  - 3. Shop finishing of architectural wood cabinets.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product, including panel products, cabinet hardware and accessories, and finishing materials and processes.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components. Product design and layout to be by fabricator in accordance with Owner's instructions.
- C. Samples:
  - 1. Lumber for transparent finish, for each species and cut, finished on one side and one edge.
  - 2. Veneer leaves representative of and selected from flitches to be used for transparent-finished cabinets.
  - 3. Lumber and panel products with shop-applied opaque finish, for each finish system and color, with exposed surface finished.
  - 4. Thermoset decorative panels, for each color, pattern, and surface finish.
  - 5. Exposed cabinet hardware and accessories, one unit for each type.

##### 1.3 QUALITY ASSURANCE

- A. Refer to Section 400.

##### 1.4 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

#### PART 2 - PRODUCTS

##### 2.1 ARCHITECTURAL CABINET FABRICATORS

- A. Fabricators: Subject to compliance with requirements, provide products by a fabricator having at least 5 years' experience and approved by Owner.



## **2.2 ARCHITECTURAL WOOD CABINETS, GENERAL**

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural wood cabinets indicated for construction, finishes, installation, and other requirements.

## **2.3 WOOD CABINETS FOR TRANSPARENT FINISH**

- A. Grade: Custom.
- B. Type of Construction: Face frame.
- C. Cabinet and Door and Drawer Front Interface Style: Shaker style, Lipped.
- D. Wood for Exposed Surfaces:
  - 1. Species: Red oak, White oak, White ash, White birch or approved alternate.
  - 2. Cut: Plain sliced/plain sawn, rift cut/rift sawn, or Quarter cut/quarter sawn.
  - 3. Grain Direction: Vertically for doors and fixed panels, horizontally for drawer fronts.
  - 4. Matching of Veneer Leaves: Random match.
  - 5. Veneer Matching within Panel Face: Center-balance match.
- E. Semiexposed Surfaces: Provide surface materials indicated below:
  - 1. Surfaces Other Than Drawer Bodies: Hardwood plywood, stained to match.
  - 2. Drawer Subfronts, Backs, and Sides: Thermoset decorative panels with PVC or polyester edge banding.
  - 3. Drawer Bottoms: Hardwood plywood or thermoset decorative panels.

## **2.4 WOOD MATERIALS**

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
  - 1. Wood Moisture Content: 5 to 10 percent.

## **2.5 CABINET HARDWARE AND ACCESSORIES**

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 100 degrees of opening.
- C. Drawer Slides: BHMA A156.9.
  - 1. Grade 1 and Grade 2: Side mounted and extending under bottom edge of drawer; full-extension type; epoxy-coated steel with polymer rollers.
  - 2. For drawers not more than 3 inches high and not more than 24 inches wide, provide Grade 2 or Grade 1.
  - 3. For drawers more than 3 inches high but not more than 6 inches high and not more than 24 inches wide, provide Grade 1.

- D. Door and Drawer Silencers: BHMA A156.16, L03011.
- E. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
  - 1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.

## **2.6 MISCELLANEOUS MATERIALS**

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

## **2.7 FABRICATION**

- A. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- B. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

## **2.8 SHOP FINISHING**

- A. General: Finish architectural wood cabinets at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- B. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural wood cabinets, as applicable to each unit of work.
  - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of cabinets.
- C. Transparent Finish:
  - 1. Grade: Custom.
  - 2. Finish: System - 5, conversion varnish.
  - 3. Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to cabinets made from closed-grain wood before staining and finishing.
  - 4. Staining: Cherry Tone.
  - 5. Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.
  - 6. Filled Finish for Open-Grain Woods: Apply paste wood filler and wipe off excess. Tint filler to match stained wood.
  - 7. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Before installation, condition cabinets to average prevailing humidity conditions in installation areas.

### **3.2 INSTALLATION**

- A. Grade: Install cabinets to comply with same grade as item to be installed.
- B. Install cabinets level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
- C. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- D. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.
- E. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
  - 1. Install cabinets with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
  - 2. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head screws sized for not less than 1-1/2-inch penetration into wood framing, blocking, or hanging strips.
- F. Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed.

**END OF SECTION**

**SECTION 07 2100**  
**THERMAL INSULATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Batt insulation.
  - 2. Vapor retarders.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.

**1.3 INFORMATIONAL SUBMITTALS**

- A. Product test reports.
- B. Research/evaluation reports.

**PART 2 - PRODUCTS**

**2.1 BATT INSULATION MATERIALS**

- A. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
  - 1. Thermal resistance as indicated.
  - 2. Facing: Manufacturer's standard on one side. Vapor permeability of one perm or less.
  - 3. Manufacturers:
    - a. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
    - b. Johns Manville Corporation: [www.jm.com](http://www.jm.com).
    - c. Owens Corning Corp: [www.owenscorning.com](http://www.owenscorning.com).

**PART 3 - EXECUTION**

**3.1 INSTALLATION, GENERAL**

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

### **3.2 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION**

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Foam-Plastic Board Insulation: Seal joints between units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer.
- C. Batt Insulation or Mineral-Wool Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
  - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
  - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
  - 3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
  - 4. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
  - 5. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
  - 6. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:
    - a. With faced blankets having stapling flanges, secure insulation by inset, stapling flanges to sides of framing members.
    - b. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
- D. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
  - 1. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

### **3.3 PROTECTION**

- A. Do not permit installed insulation to be exposed to moisture or damaged prior to its concealment.

**END OF SECTION**

## SECTION 07 4600

### SIDING

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes fiber-cement siding.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For siding including related accessories.

##### 1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified vinyl siding Installer.
- B. Product certificates.
- C. Product test reports.
- D. Research/evaluation reports.
- E. Warranty: Sample of special warranty.

##### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

##### 1.5 QUALITY ASSURANCE

- A. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.
- B. Source Limitations: Obtain each type, color, texture, and pattern of siding, including related accessories, from single source from single manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site.

##### 1.6 WARRANTY

- A. Special Warranty: Standard form in which manufacturer agrees to repair or replace siding that fail(s) in materials or workmanship within specified warranty period.
  - 1. Warranty Period: 25 years from date of Substantial Completion.

#### PART 2 - PRODUCTS

##### 2.1 FIBER-CEMENT SIDING

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Cemplank.
    - b. CertainTeed Corp.

- c. GAF Materials Corporation.
  - d. James Hardie.
  - e. MaxiTile, Inc; a California corporation.
  - f. Nichiha Fiber Cement.
- 2. Horizontal Pattern: Boards 7-1/4 to 7-1/2 inches wide in plain style. Texture: Wood grain.
  - 3. Factory Priming: Manufacturer's standard acrylic primer.

## **2.2 ACCESSORIES**

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
  - 1. Provide accessories matching color and texture of adjacent siding unless otherwise indicated.
- B. Flashing: Provide galvanized sheet steel flashing complying with Section 07 6200 "Sheet Metal Flashing and Trim" at window and door heads and where indicated.
- C. Fasteners:
  - 1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch into substrate.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of siding and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION**

- A. General: Comply with siding manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
  - 1. Do not install damaged components.
- B. Install fiber-cement siding and related accessories.
  - 1. Install fasteners no more than 16 inches o.c.
- C. Unless specifically not recommended by siding manufacturer, install joint sealants as specified in Section 07 9200 "Joint Sealants" and to produce weathertight installation. Install other joint treatment such as joint flashing as recommended by siding manufacturer where joint sealant is not recommended.

### **3.3 ADJUSTING AND CLEANING**

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

**END OF SECTION**

## SECTION 076200

### SHEET METAL FLASHING AND TRIM

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Formed roof-drainage sheet metal fabrications.
  - 2. Formed wall sheet metal fabrications.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

##### 1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranty.

##### 1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

##### 1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

##### 1.6 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
  - 1. Finish Warranty Period: 10 years from date of Substantial Completion.

#### PART 2 - PRODUCTS

##### 2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. SPRI Wind Design Standard: Manufacture and install roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure:
  - 1. Design Wind Loads: As indicated on Drawings.



- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

## **2.2 SHEET METALS**

- A. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 coating designation; prepainted by coil-coating process to comply with ASTM A 755/A 755M.
1. Surface: Manufacturer's standard clear acrylic coating on both sides.
  2. Exposed Coil-Coated Finish:
    - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  3. Color: As selected by Owner from manufacturer's full range].

## **2.3 UNDERLAYMENT MATERIALS**

- A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.

## **2.4 MISCELLANEOUS MATERIALS**

- A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.
1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
    - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
    - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
  2. Fasteners for Zinc-Coated (Galvanized)] Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.
- C. Solder:
1. For Zinc-Coated (Galvanized) Steel: ASTM B 32, [Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead] [with maximum lead content of 0.2 percent].
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

- F. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- G. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

## **2.5 FABRICATION, GENERAL**

- A. General: Custom fabricate sheet metal flashing and trim to comply with the flashing and waterproofing design and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
  - 1. Obtain field measurements for accurate fit before shop fabrication.
  - 2. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
  - 3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
  - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- C. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- E. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

## **2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS**

- A. Hanging Gutters: Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch- long sections. Furnish flat-stock gutter brackets and gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard but with thickness not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, and gutter accessories from same metal as gutters. Shop fabricate interior and exterior corners.
  - 1. Accessories: Continuous, removable leaf screen with sheet metal frame and hardware cloth screen.
- B. Downspouts: Fabricate rectangular downspouts complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Shop fabricate elbows.
  - 1. Fabricate from any of the following materials:
    - a. Aluminum: 0.024 inch thick.
    - b. Galvanized Steel: 0.022 inch thick.

## **2.7 WALL SHEET METAL FABRICATIONS**

- A. Opening Flashings in Frame Construction: Fabricate head, sill, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch- high, end dams. Fabricate from the following materials:
  - 1. Galvanized Steel: 0.022 inch thick.

- B. Wall Expansion-Joint Cover: Fabricate from the following materials:
  - 1. Galvanized Steel: 0.028 inch thick.

### **PART 3 - EXECUTION**

#### **3.1 UNDERLAYMENT INSTALLATION**

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

#### **3.2 INSTALLATION, GENERAL**

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
  - 1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
  - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
  - 3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
  - 4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
  - 5. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
  - 1. Coat concealed side of uncoated-aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
  - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
  - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
- D. Fasteners: Use fastener sizes that penetrate [wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws and into others substrates not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 07 9005 "Joint Sealers."

- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.
  - 1. Do not solder metallic-coated steel and aluminum sheet.
  - 2. Do not use torches for soldering.
  - 3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
  - 4. Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
  - 5. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.
- H. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

### **3.3 ROOF-DRAINAGE SYSTEM INSTALLATION**

- A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Hanging Gutters: Join sections with riveted and soldered joints or joints sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchor them in position. Provide end closures and seal watertight with sealant. Slope to downspouts.
  - 1. Install gutter with expansion joints at locations not exceeding 50 feet apart. Install expansion-joint caps.
  - 2. Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.
- C. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration necessary. Lap joints minimum of 4 inches in direction of water flow.

### **3.4 ROOF FLASHING INSTALLATION**

- A. General: Install sheet metal flashing and trim to comply with performance requirements and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches.

- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

### **3.5 WALL FLASHING INSTALLATION**

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, and similar flashings to extend 4 inches beyond wall openings.

### **3.6 CLEANING AND PROTECTION**

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

**END OF SECTION**

## SECTION 07 9005

### JOINT SEALERS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Sealants and joint backing.

##### 1.2 REFERENCE STANDARDS

- A. ASTM C834 - Standard Specification for Latex Sealants; current adopted edition.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; current adopted edition.
- C. ASTM D1667 - Standard Specification for Flexible Cellular Materials--Poly(Vinyl Chloride) Foam (Closed-Cell); current adopted edition.

##### 1.3 SUBMITTALS

- A. See Section 400 for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.
- C. Samples: Submit two samples, 1/4 x 2 inch in size illustrating sealant colors for selection.

##### 1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section with minimum two years' experience.

##### 1.5 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

##### 1.6 WARRANTY

- A. See Section 400 for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

#### PART 2 PRODUCTS

##### 2.1 SEALANTS

- A. General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
  - 1. Applications: Use for:
    - a. Joints between concrete and other materials.
    - b. Joints between metal frames and other materials.
    - c. Other exterior joints for which no other sealant is indicated, unless a sealant is specifically not recommended by the manufacturer of the substrate.
- B. Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, nondrying, nonskinning, noncuring.
  - 1. Applications: Use for:

- a. Concealed sealant bead in sheet metal work.
  - b. Under thresholds.
- C. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
  - 1. Color: Standard colors matching finished surfaces.
  - 2. Applications: Use for:
    - a. Interior wall and ceiling control joints.
    - b. Joints between door and window frames and wall surfaces.
    - c. Other interior joints for which no other type of sealant is indicated.

## **2.2 ACCESSORIES**

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
- C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.
- C. Verify that joint type, materials and sealants compatible and as recommended by sealant manufacturer. Notify Agency Project Manager if sealant, other than those specified, is required. Provide product data justifying use of the sealant.

### **3.2 PREPARATION**

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

### **3.3 INSTALLATION**

- A. Apply sealants where indicated and were necessary for weathertightness and waterproofness on both exterior and interior surfaces.
- B. Apply sealants where indicated and where appropriate to enhance sanitary maintenance.
- C. Use sealants recommended by the manufacturer for the specific application.
- D. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- E. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.
- F. Install bond breaker where joint backing is not used.

- G. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- H. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- I. Tool joints concave.
- J. Apply masonry sand to sealant at expansion/movement joints in masonry to simulate mortar joint.

**3.4 CLEANING**

- A. Clean adjacent soiled surfaces.

**3.5 PROTECTION**

- A. Protect sealants until cured.

**END OF SECTION**



**SECTION 08 1100  
METAL DOORS AND FRAMES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

Work includes providing metal doors and door frames of the described size, type and thickness specified herein and shown on plans.

**1.2 SUBMITTALS**

- A. Shop drawings in accordance with Section 400.
- B. Product Data: Submit manufacturer's technical product data substantiating that products comply with requirements.
- C. Shop Drawings: Submit for fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
- D. Provide schedule of doors and frames, using the door numbers as they appear in the Door Schedule on the Drawings.

**1.3 QUALITY ASSURANCE**

- A. Materials
  - 1. All material used in the fabricating of steel doors and frames shall be free from defects impairing strength, durability, and appearance. Doors shall conform to Commercial Standard CS 242-62 and PS4-66.
  - 2. Doors and frames in accordance with Standard Steel Door Institute (SDI) recommendations -- SDI 100-78, extra heavy duty, Type III, 16 gage, galvanized steel.
  - 3. Doors and frames to be from a single manufacturer.
  - 4. All frames are fully welded with bituminous coating.
- B. Hardware
  - 1. Reinforce, drill and tap doors and frames to receive mortised hinges, locks, latches, flush bolts and concealed closer as required.
  - 2. Hardware preparation in accordance with SDI 107. CONTRACTOR to drill and tap for surface applied hardware in accordance with SDI 107.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Single and Double Swing, Vertically Hung Doors

1. Doors shall be 1-3/4 inch full flush, fabricated from two sheets 18 gage galvanized steel with no visible seams on either face. Doors shall be reinforced, stiffened, insulated with polyurethane core, and sound deadened. Doors shall be bonderized and finished with standard one-coat baked-on prime coat. Doors to be thoroughly degreased and cleaned of all imperfections before finish painting is applied per Division 9. Provide top caps on exterior doors and louvers on doors where indicated on the plans.
2. Doors shall be provided with 3/16-inch steel hinge reinforcements, 1/8-inch steel lock reinforcements all securely welded into place and each drilled and tapped to receive field installed finish hardware and shall open outward.
3. Non-fire-rated doors: manufacturer's standard, rigid, fully welded door frame provided in size as shown on Drawings, minimum 18 gage galvanized steel, double rabbet.
4. All frames shall be furnished with standard one-coat baked-on prime coat ready to receive specified finish paint systems in accordance with Division 9. Anchor doors to opening in accordance with manufacturers recommendations. All hardware shall be of manufacturer's standard design except as described in Section 08 71 00 of these specifications.
5. Accepted Manufacturer – As specified in drawings.

## **PART 3 - EXECUTION**

### **3.1 PRODUCT HANDLING**

- A. Delivery and Storage -- Deliver and store doors and frames at the job site in dry area, complete protection between doors to insure against surface damage. Take special care at all times to prevent staining of door surface. Carry doors and frames when moving them; do not drag; do not slide one door across another.
- B. Replacements -- In the event of damage, immediately make all repairs and replacements necessary to the approval of the OWNER and at no additional cost to OWNER.

### **3.2 INSTALLATION**

- A. Install plumb, straight, true, rigidly secured in place and properly braced all in accordance with manufacturer's recommendations.
- B. Fit and install specified hardware to operate freely and adjust doors before final acceptance.

### **3.3 CORRECTIONS AND CLEANUP**

- A. Immediately after erection, sand smooth all rusted, or damaged areas of prime coat and apply touch up compatible primer.
- B. Finish Coatings - Provide finish coatings per Division 9. Paint prior to hardware placement.

**END OF SECTION**

## SECTION 08 5313

### VINYL WINDOWS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section includes vinyl-framed windows.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Product Schedule: For vinyl windows. Use same designations indicated on Drawings.

##### 1.3 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Sample warranties.

##### 1.4 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace vinyl windows that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period:
    - a. Window: 10 years from date of Substantial Completion.
    - b. Glazing Units: 10 years from date of Substantial Completion.

#### PART 2 PRODUCTS

##### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. CertainTeed Corporation.
  - 2. Crestline Windows and Doors; SNE Enterprises, Inc.
  - 3. Fleetwood Windows & Doors.
  - 4. Gerkin Windows and Doors.
  - 5. JELD-WEN, Inc.
  - 6. Kolbe & Kolbe Millwork Co., Inc.
  - 7. Milgard Windows, Inc.
  - 8. Pella Corporation.
  - 9. Quaker Windows Products Co.
  - 10. Schwinco.
  - 11. Serious Materials Inc.

12. Simonton Building Products, Inc.
13. Thermal Windows, Inc.
14. Vetter.
15. Weather Shield Mfg., Inc.
16. YKK AP America Inc.

## **2.2 WINDOW PERFORMANCE REQUIREMENTS**

- A. Product Standard: AAMA/WDMA/CSA 101/I.S.2/A440.
  1. Minimum Performance Class: CW.
  2. Minimum Performance Grade: 30.
- B. Thermal Transmittance: NFRC 100 maximum whole-window U-factor as indicated on Drawings.
- C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC as indicated on Drawings.

## **2.3 VINYL WINDOWS**

- A. Operating Types: As indicated on Drawings.
- B. Frames and Sashes: Impact-resistant, UV-stabilized PVC complying with AAMA/WDMA/CSA 101/I.S.2/A440.
  1. Finish: Integral color, white.
  2. Gypsum Board Returns: Provide at interior face of frame.
  3. Kind: Fully tempered where indicated on Drawings.
- C. Insulating-Glass Units: ASTM E 2190.
  1. Glass: ASTM C 1036, Type 1, Class 1, q3.
    - a. Tint: Gray.
    - b. Kind: Fully tempered where indicated on Drawings.
  2. Lites: As indicated on Drawings.
  3. Filling: Fill space between glass lites with argon.
  4. Low-E Coating: Sputtered on second surface.
- D. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.
- E. Hardware, General: Manufacturer's standard corrosion-resistant material sized to accommodate sash weight and dimensions.
  1. Exposed Hardware Color and Finish: As selected by Owner from manufacturer's full range.
- F. Horizontal-Sliding Window Hardware:
  1. Sill Cap/Track: Designed to comply with performance requirements indicated and to drain to the exterior.
  2. Locks and Latches: Operated from the inside only.
  3. Roller Assemblies: Low-friction design.
- G. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.

- H. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
  - 1. Exposed Fasteners: Do not use exposed fasteners to the greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

## **2.4 INSECT SCREENS**

- A. General: Fabricate insect screens to fully integrate with window frame. Provide screen for each operable exterior sash. Screen wickets are not permitted.
  - 1. Type and Location: Half, outside for sliding sashes.
- B. Aluminum Frames: Complying with SMA 1004 or SMA 1201.
  - 1. Finish for Exterior Screens: Baked-on organic coating in color selected by Owner from manufacturer's full range.
- C. Glass-Fiber Mesh Fabric: 18-by-14 or 18-by-16 mesh complying with ASTM D 3656.
  - 1. Mesh Color: Manufacturer's standard.

## **2.5 FABRICATION**

- A. Fabricate vinyl windows in sizes indicated. Include a complete system for assembling components and anchoring windows.
- B. Glaze vinyl windows in the factory.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Provide mullions and cover plates, compatible with window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units. Provide manufacturer's standard finish to match window units.
- E. Mount hardware through double walls of vinyl extrusions or provide corrosion-resistant reinforcement.
- F. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

## **PART 3 EXECUTION**

### **3.1 INSTALLATION**

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- D. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.

- E. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.

**END OF SECTION**

**SECTION 08 7100**  
**DOOR HARDWARE**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

Work includes furnishing and installing finish hardware on doors throughout the project as specified herein and as needed for a complete and proper installation.

**1.2 SUBMITTALS**

- A. Submit copies of a complete schedule of hardware, listing each opening, door size, hand, frame material, and door label. State keying, material finish, and manufacturer's number for each item. Obtain ENGINEER's review before proceeding. Review does not relieve CONTRACTOR of responsibility for items that may not be included on the schedule.
- B. Schematic Keying Diagram.
- C. One copy of transmittal notice sent to door and frame fabricator by hardware supplier.

**PART 2 - PRODUCTS**

**2.1 MATERIALS:** For each of the required items of finish hardware, provide from the Hardware Schedule in the Drawings, or alternates approved in advance by the OWNER, and as follows.

- A. Fasteners
  - 1. Furnish necessary screws, bolts, and other fasteners of suitable size and type to anchor the hardware in position for long life under hard use.
  - 2. Where necessary, furnish fasteners with expansion shields, toggle bolts, hex bolts, and other anchors, according to the material to which hardware is to be applied and according to the recommendations of the hardware manufacturer.

**2.2 KEYING**

- A. Coordinate with OWNER.
- B. Provide temporary keying throughout construction with temporary construction cores. Replace temporary cores with permanent cores at OWNER's direction at Final Completion.

**2.3 FIRE DEPARTMENT KEY ACCESS BOXES**

- A. If required by authority having jurisdiction, provide fire department "Knox-Box" access key lock boxes. Apply for and order boxes through the local Fire Department having jurisdiction.
- B. Boxes: Knox-box Series 3200 for recessed mount, 1/4-inch steel case, fully welded.
  - 1. Size: 7" h x 7" w x 3-1/4" d with 7" square face plate.
  - 2. Finish: Zinc phosphate with black polyester powder coating or dark bronze or aluminum, as selected by Owner.
  - 3. Provide recessed mounting kit and all other required mounting accessories.
  - 4. Coordinate and provide keying and type per fire/police department, and other jurisdictional agency requirements.

- C. Where boxes are to be located within concrete or masonry walls, furnish Knox recess mounting kits for casting in place. Install box near the door indicated on the Drawings, approximately one foot from the door jamb and approximately five to six feet above finished grade.

## **2.5 OTHER MATERIALS**

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and subject the approval of the OWNER.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Deliver products complete with necessary parts for fitting and installing. Wrap each in a separate package, distinctly labeled and numbered for each opening for which it intended. Check merchandise ordered from the factory before sending to the job site.
- B. Have an experienced person to receive, take charge of, and distribute hardware at the job site.

### **3.2 INSTALLATION**

- A. Install mortised items, then remove and place in their original package until painters have completed their work, then fit permanently in place.
- B. Wrap hardware subject to hand usage during construction for protection. Keep finish free from blemishes or defects.
- C. Mount hardware in location and height as recommended by SDI.
- D. Adjust door closers for moderate swing in the sweep position and unless automatic flush bolts are used, adjust latch position for as slow a closing as practical.
- E. Install door stops as directed by OWNER. Place door stops at point of contact. In certain locations, it may be advantageous to place stop on the door.
- F. Ensure watertight joints at exterior doors.

### **3.3 CORRECTIONS AND CLEANUP**

- A. Replace scratched or damaged hardware with new hardware.
- B. Remove protective maskings, clean surfaces.
- C. Upon completion of this work, remove all disused implements, rubbish, and debris, and leave premises neat and clean.

### **3.4 HARDWARE GROUPS – See Drawings**

**END OF SECTION**



**SECTION 09 2116**  
**GYPSUM BOARD ASSEMBLIES**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Gypsum wallboard.
- B. Joint treatment and accessories.

**1.2 REFERENCE STANDARDS**

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; current adopted edition.
- B. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; current adopted edition.
- C. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; current adopted edition.
- D. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; current adopted edition.
- E. ASTM C1396/C1396M - Standard Specification for Gypsum Board; current adopted edition.
- F. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; current adopted edition.

**1.3 QUALITY ASSURANCE**

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of experience.

**PART 2 PRODUCTS**

**2.1 GYPSUM BOARD ASSEMBLIES**

- A. Provide completed assemblies complying with ASTM C840 and GA-216.

**2.2 BOARD MATERIALS**

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
  - 1. Application: Use for wall and ceiling surfaces, where indicated.
  - 2. Thickness: As indicated on Drawings.

**2.3 ACCESSORIES**

- A. Finishing Accessories: ASTM C1047, rolled zinc or rigid plastic, unless otherwise indicated.
  - 1. Types: As detailed or required for finished appearance.
- B. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
  - 1. Ready-mixed vinyl-based joint compound.
- C. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members,

and to Gypsum Board: ASTM C1002; self-piercing tapping type.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Verify that project conditions are appropriate for work of this section to commence.

#### **3.2 INSTALLATION OF TRIM AND ACCESSORIES**

- A. Corner Beads: Install at external corners, using longest practical lengths.
- B. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.
  - 1. Exception: Where gypsum board edge is concealed by other trim.

#### **3.3 JOINT TREATMENT**

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
  - 1. Level 5: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
  - 2. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
  - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
- C. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

#### **3.4 TOLERANCES**

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

**END OF SECTION**

**SECTION 09 5123**  
**ACOUSTICAL TILE CEILINGS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section includes acoustical tiles and concealed suspension systems for ceilings

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

**1.3 CLOSEOUT SUBMITTALS**

- A. Maintenance data.

**PART 2 PRODUCTS**

**2.1 PERFORMANCE REQUIREMENTS**

- A. Seismic Performance: Acoustical ceiling shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
- B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.
  - 2. Smoke-Developed Index: 450 or less.

**2.2 ACOUSTICAL TILE CEILINGS, GENERAL**

- A. Acoustical Tile Standard: Comply with ASTM E 1264.
- B. Metal Suspension System Standard: Comply with ASTM C 635.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

**2.3 ACOUSTICAL TILES**

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Armstrong World Industries, Inc.
  - 2. CertainTeed Corp.
  - 3. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Color: White.
- C. LR: 0.82 minimum.
- D. NRC: 0.55 minimum, Type E-400 mounting according to ASTM E 795.
- E. CAC: 35.
- F. Edge/Joint Detail: Beveled, kerfed and rabbeted, or tongue and grooved, or butt.

- G. Thickness: 5/8 inch.
- H. Modular Size: 48 by 24 inches or 24 by 24 inches, as indicated on Drawings.

## **2.4 METAL SUSPENSION SYSTEM**

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Armstrong World Industries, Inc.
  - 2. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Structural Classification: Heavy-duty system.
- C. Access: Upward.
- D. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Manufacturer's standard moldings for edges and penetrations complying with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.

## **PART 3 EXECUTION**

### **3.1 INSTALLATION**

- A. Install acoustical tile ceilings to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders, and comply with layout shown on reflected ceiling plans.
- C. Arrange directionally patterned acoustical tiles as indicated on reflected ceiling plans.

**END OF SECTION**

## SECTION 09 6513

### RESILIENT BASE AND ACCESSORIES

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Resilient base.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

#### PART 2 - PRODUCTS

##### 2.1 VINYL BASE

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Armstrong World Industries, Inc.
  - 2. Burke Mercer Flooring Products, Division of Burke Industries Inc.
  - 3. Flexco.
  - 4. Johnsonite; A Tarkett Company.
  - 5. Roppe Corporation, USA.
  - 6. VPI, LLC, Floor Products Division.
- B. Product Standard: ASTM F 1861, Type TV (vinyl, thermoplastic).
  - 1. Group: I (solid, homogeneous) or II (layered).
  - 2. Style and Location:
    - a. Style A, Straight: Provide in areas with carpet.
    - b. Style B, Cove: Provide in areas with resilient flooring.
- C. Minimum Thickness: 0.125 inch.
- D. Height: 4 inches.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Preformed.
- G. Inside Corners: Preformed.
- H. Colors and Patterns: As selected by Owner from full range of industry colors and patterns.

## **2.2 INSTALLATION MATERIALS**

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until they are the same temperature as the space where they are to be installed.
- D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

### **3.2 RESILIENT BASE INSTALLATION**

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.

### **3.3 CLEANING AND PROTECTION**

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Cover resilient products subject to wear and foot traffic until Substantial Completion.

**END OF SECTION**

## SECTION 09 6516

### RESILIENT SHEET FLOORING

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes **vinyl** sheet flooring.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified in manufacturer's standard size, but not less than 6-by-9-inch sections.

##### 1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.

#### PART 2 - PRODUCTS

##### 2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient sheet flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
  - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

##### 2.2 VINYL SHEET FLOORING WITH BACKING

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, those from the following manufacturers, with approval by Owner:
  - 1. Altro Group.
  - 2. Armstrong World Industries, Inc.
  - 3. Congoleum Corporation.
  - 4. Forbo Industries, Inc.
  - 5. Gerflor.
  - 6. Lonseal, Inc.
  - 7. Mannington Mills, Inc.
  - 8. Polyflor, Ltd., Distributed by Gerbert Limited.
  - 9. TOLI International.
- B. Product Standard: ASTM F 1303.
  - 1. Type (Binder Content): Type I, minimum binder content of 90 percent.
  - 2. Wear-Layer Thickness: Grade 1.
  - 3. Overall Thickness: As standard with manufacturer.
  - 4. Backing Class: Class A (fibrous), Class B (nonfoamed plastic), or Class C (foamed plastic).

- C. Wearing Surface: Embossed with embedded abrasives.
- D. Sheet Width: As standard with manufacturer.
- E. Seamless-Installation Method: Chemically bonded.
- F. Colors and Patterns: As selected by Owner from full range of industry colors and patterns.

### **2.3 INSTALLATION MATERIALS**

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient sheet flooring manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit resilient sheet flooring and substrate conditions indicated.
- C. Seamless-Installation Accessories:
  - 1. Chemical-Bonding Compound: Manufacturer's product for chemically bonding seams.
- D. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient sheet flooring manufacturer.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Prepare substrates according to resilient sheet flooring manufacturer's written instructions to ensure adhesion of resilient sheet flooring.
- B. Concrete Substrates: Prepare according to ASTM F 710.
  - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
  - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by resilient sheet flooring manufacturer. Do not use solvents.
  - 3. Alkalinity and Adhesion Testing: Perform tests recommended by resilient sheet flooring manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
  - 4. Moisture Testing: Proceed with installation only after substrates pass testing according to resilient sheet flooring manufacturer's written recommendations, but not less stringent than the following:
    - a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    - b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install resilient sheet flooring until it is the same temperature as the space where it is to be installed.



- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient sheet flooring.

### **3.2 RESILIENT SHEET FLOORING INSTALLATION**

- A. Comply with manufacturer's written instructions for installing resilient sheet flooring.
- B. Unroll resilient sheet flooring and allow it to stabilize before cutting and fitting.
- C. Lay out resilient sheet flooring as follows:
  - 1. Maintain uniformity of flooring direction.
  - 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches away from parallel joints in flooring substrates.
  - 3. Match edges of flooring for color shading at seams.
  - 4. Avoid cross seams.
- D. Scribe and cut resilient sheet flooring to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, and door frames.
- E. Extend resilient sheet flooring into toe spaces, door reveals, closets, and similar openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on resilient sheet flooring as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install resilient sheet flooring on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of flooring installed on covers and adjoining flooring. Tightly adhere flooring edges to substrates that abut covers and to cover perimeters.
- H. Adhere resilient sheet flooring to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- I. Seamless Installation:
  - 1. Chemically Bonded Seams: Bond seams with chemical-bonding compound to permanently fuse sections into a seamless flooring. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on flooring surfaces.

### **3.3 CLEANING AND PROTECTION**

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient sheet flooring.
- B. Floor Polish: Remove soil, adhesive, and blemishes from flooring surfaces before applying liquid floor polish.
  - 1. Apply two coats.
- C. Cover resilient sheet flooring until Substantial Completion.

**END OF SECTION**

## **SECTION 09 6813**

### **TILE CARPETING**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Section includes modular, tufted carpet tile.

##### **1.2 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project site.

##### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show the following:
  - 1. Pattern of installation.
  - 2. Pattern type, location, and direction.
  - 3. Pile direction.
- C. Samples: For each exposed product and for each color and texture specified.

##### **1.4 INFORMATIONAL SUBMITTALS**

- A. Product test reports.
- B. Sample warranty.

##### **1.5 CLOSEOUT SUBMITTALS**

- A. Maintenance data.

##### **1.6 QUALITY ASSURANCE**

- A. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.

##### **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Comply with CRI 104.

##### **1.8 FIELD CONDITIONS**

- A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.

##### **1.9 WARRANTY**

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.

1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
2. Failures include, but are not limited to, more than 10 percent edge raveling, snags, runs, dimensional stability, excess static discharge, loss of tuft bind strength, loss of face fiber, and delamination.
3. Warranty Period: 10 years from date of Substantial Completion.

## **PART 2 - PRODUCTS**

### **2.1 CARPET TILE**

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Mohawk Group BT353 Reckless QS or comparable product:
- B. Fiber Type: Colorstrand SD Nylon.
- C. Pile Characteristic: Textured pattern loop pile.
- D. Density: 5000 oz./yd., minimum.
- E. Pile Thickness: 0.104 inches minimum for finished carpet tile.
- F. Stitches: 9.6 stitches per inch.
- G. Gage: 1/12.
- H. Backing System: EcoFlex ICT.
- I. Size: 24 by 24 inches.
- J. Applied Soil-Resistance Treatment: Sentry Soil Protection.
- K. Performance Characteristics: As follows:
  1. Foot Traffic Recommendation TARR: Severe.

### **2.2 INSTALLATION ACCESSORIES**

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

- D. Preparation: Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.
- E. Installation: Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.
- F. Installation Method: As recommended in writing by carpet tile manufacturer.
- G. Maintain dye lot integrity. Do not mix dye lots in same area.
- H. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- I. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- J. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
- K. Install pattern parallel to walls and borders.
- L. Perform the following operations immediately after installing carpet tile:
  - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
  - 2. Remove yarns that protrude from carpet tile surface.
  - 3. Vacuum carpet tile using commercial machine with face-beater element.
- M. Protect installed carpet tile to comply with CRI 104, Section 16, "Protecting Indoor Installations."

**END OF SECTION**

## SECTION 09 7720

### DECORATIVE FIBERGLASS REINFORCED WALL PANELS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section Includes: Prefinished polyester glass reinforced plastic sheets and adhered to unfinished gypsum wallboard.
  - 1. Aluminum trim.
- B. Products Not Furnished or Installed under This Section:
  - 1. Gypsum substrate board.
  - 2. Resilient Base.

##### 1.2 RELATED SECTIONS

- A. Section 09 2116 – Gypsum Board Assemblies.
- B. Section 09 6513 - Resilient Base.

##### 1.3 REFERENCES

- A. American Society for Testing and Materials: Standard Specifications (ASTM)
  - 1. ASTM D 256 - Izod Impact Strengths (ft #/in)
  - 2. ASTM D 570 - Water Absorption (%)
  - 3. ASTM D 638 - Tensile Strengths (psi) & Tensile Modulus (psi)
  - 4. ASTM D 790 - Flexural Strengths (psi) & Flexural Modulus (psi)
  - 5. ASTM D 2583- Barcol Hardness
  - 6. ASTM D 5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels.
  - 7. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

##### 1.4 SUBMITTALS

- A. Product Data: Submit sufficient manufacturer's data to indicate compliance with these specifications, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- B. Samples for Verification: Submit appropriate section of panel for each finish selected indicating the color, texture, and pattern required.
  - 1. Submit complete with specified applied finish.
  - 2. For selected patterns show complete pattern repeat.
  - 3. Exposed Molding and Trim: Provide samples of each type, finish, and color.

## **1.5 QUALITY ASSURANCE**

- A. Conform to building code requirements for interior finish for smoke and flame spread requirements as tested in accordance with:
  - 1. ASTM E 84 (Method of test for surface burning characteristics of building Materials)
    - a. Wall Required Rating – Class C.

## **1.6 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials factory packaged on strong pallets.
- B. Store panels and trim lying flat, under cover and protected from the elements. Allow panels to acclimate to room temperature (70°) for 48 hours prior to installation.

## **1.7 PROJECT CONDITIONS**

- A. Environmental Limitations: Building are to be fully enclosed prior to installation with sufficient heat (70°) and ventilation consistent with good working conditions for finish work
- B. During installation and for not less than 48 hours before, maintain an ambient temperature and relative humidity within limits required by type of adhesive used and recommendation of adhesive manufacturer.
  - 1. Provide ventilation to disperse fumes during application of adhesive as recommended by the adhesive manufacturer.

## **1.8 WARRANTY**

- A. Furnish one-year guarantee against defects in material and workmanship.

## **PART 2 PRODUCTS**

### **2.1 ACCEPTABLE MANUFACTURER**

- A. Marlite; 202 Harger Street, Dover, OH 44622. 800-377-1221 FAX (330) 343-4668 Email: info@marlite.com [www.marlite.com](http://www.marlite.com).
- B. Product:
  - 1. Standard FRP with Sani-Coat.

### **2.2 PANELS**

- A. Fiberglass reinforced thermosetting polyester resin panel sheets complying with ASTM D 5319.
  - 1. Coating: Multi layer print, primer and finish coats.
  - 2. Dimensions:
    - a. Thickness – 0.090 inch (2.29mm) nominal
    - b. Width - 4'-0" (1.22m) nominal
    - c. Length – As indicated on the drawings nominal
  - 3. Tolerance:
    - a. Length and Width: +/-1/8 inch (3.175mm)
    - b. Square - Not to exceed 1/8 inch for 8 foot (2.4m) panels or 5/32 inch (3.96mm) for 10 foot (2.4m) panels
- B. Properties: Resistant to rot, corrosion, staining, denting, peeling, and splintering.

1. Flexural Strength -  $1.0 \times 10^4$  psi per ASTM D 790. (7.0 kilogram-force/square millimeter)
  2. Flexural Modulus -  $3.1 \times 10^5$  psi per ASTM D 790. (217.9 kilogram-force/square millimeter)
  3. Tensile Strength -  $7.0 \times 10^3$  psi per ASTM D 638. (4.9 kilogram-force/square millimeter)
  4. Tensile Modulus -  $1.6 \times 10^5$  psi per ASTM D 638. (112.5 kilogram-force/square millimeter)
  5. Water Absorption - 0.72% per ASTM D 570.
  6. Barcol Hardness (scratch resistance) of 35 55 as per ASTM D 2583.
  7. Izod Impact Strength of 72 ft. lbs./in ASTM D 256
- C. Back Surface: Smooth. Imperfections which do not affect functional properties are not cause for rejection.
- E. Front Finish: In accordance with preapproved sample.  
Color: 100 White Surface Pebbled Fire Rating Class C MOLDINGS
- F. Aluminum Trim: Heavy weight extruded aluminum 6063-T5 alloy prefinished at the factory.
1. Finish: Factory oven-baked finish.
  2. Profiles :
    - a. F 550 Inside Corner
    - b. F 561 Outside Corner
    - c. F 565 Division
    - d. F 570 Edge
  3. Color: Bright Anodized

## 2.3 ACCESSORIES

- A. Adhesive: Either of the following construction adhesives complying with ASTM C 557.
1. Marlite C-551 FRP Adhesive - Water- resistant, non-flammable adhesive
  2. Marlite C-375 Construction adhesive flexible, water-resistant, solvent based adhesive formulated for fast, easy application.
- B. Sealant:
1. Marlite Brand MS-251 White Silicone Sealant

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails countersunk, joints and cracks filled flush and smooth with the adjoining surface.
1. Verify that stud spacing does not exceed 24 inch (61cm) on-center.
- B. Repair defects prior to installation.
1. Level wall surfaces to panel manufacturer's requirements. Remove protrusions and fill indentations.

### 3.2 INSTALLATION

- A. Comply with manufacturer's recommended procedures and installation sequence.

- B. Cut sheets to meet supports allowing 1/8" inch (3 mm) clearance for every 8 foot (2.43m) of panel.
  - 1. Cut and drill with carbide tipped saw blades or drill bits, or cut with shears.
- C. Apply panels to board substrate, above base, vertically oriented with seams plumb and pattern aligned with adjoining panels.
  - 1. Install panels with manufacturer's recommended gap for panel field and corner joints.
    - a. Adhesive trowel and application method to conform to adhesive manufacturer's recommendations.
- D. Apply panel moldings to all panel edges using silicone sealant providing for required clearances.
  - 1. All moldings must provide for a minimum 1/8 inch (3.18mm) of panel expansion at joints and edges, to insure proper installation.
  - 2. Apply sealant to all moldings, channels and joints between the system and different materials to assure watertight installation.

### **3.3 CLEANING**

- A. Remove excess sealant from panels and moldings. Wipe panel down using a damp cloth and mild soap solution or cleaner.
- B. Refer to manufacturer's specific cleaning recommendations. Do not use abrasive cleaners.

**END OF SECTION**



**SECTION 09 9000**  
**PAINTING AND COATING**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of paints and stains.
- C. Surfaces to be finished are indicated in this section and on the Drawings.

**1.2 RELATED REQUIREMENTS**

- A. Section 09 2116 Gypsum Board Assemblies.

**1.3 REFERENCE STANDARDS**

- A. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current adopted edition, [www.paintinfo.com](http://www.paintinfo.com).
- B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Master Painters and Decorators Association; current adopted edition.

**1.4 SUBMITTALS**

- A. See Section 400 for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
  - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
  - 2. MPI product number (e.g. MPI #47).
  - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system (copy of relevant MPI Manual page is acceptable).
- C. Samples for Selection:
  - 1. Submit two sets of paint manufacturer's standard color samples on wood substrate for selection.
- D. Samples: Submit three paper "drop" samples, 6 x 8 inches in size, illustrating range of colors available for each finishing product specified.
  - 1. Where sheen is specified, submit samples in only that sheen.
  - 2. Not applicable to stain sample.

**1.5 QUALITY ASSURANCE**

- A. Material Safety Data Sheets: At project site maintain file of MSDS sheets for each product used; become familiar with and follow manufacturer's stated application and safety requirements.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

## **1.7 FIELD CONDITIONS**

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

## **1.8 EXTRA MATERIALS**

- A. See Section 400 for any additional provisions.
- B. Supply 1 gallon of each color; store where directed.
- C. Label each container with color in addition to the manufacturer's label.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Paints and Coatings: Any manufacturer listed in MPI Approved Products List (at [www.paintinfo.com](http://www.paintinfo.com)) under applicable MPI product reference number, unless otherwise indicated.
- B. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- C. Where a paint is not specified for a specific material, provide the paint system appropriate for the material.

### **2.2 MATERIALS - GENERAL**

- A. Paints and Coatings: Provide products listed in Master Painters Institute Approved Product List, current edition available at [www.paintinfo.com](http://www.paintinfo.com), for specified MPI Categories, except as otherwise indicated.
  - 1. Provide ready mixed paints and coatings.
  - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

## **2.3 PAINT SYSTEMS - GENERAL**

- A. Provide Premium Grade systems (1 coat of primer and 2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.
- B. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.
- C. Provide colors as directed by Owner.

## **2.4 PAINT SYSTEMS – STEEL SUBSTRATES**

- A. Structural Steel and Metal Fabrications:
  - 1. Applications include doors, frames, and louvers, window frames, gates, structural and miscellaneous steel.
  - 2. Alkyd Metal Primer MPI #79, Alkyd MPI #9 with MPI VOC Range of below 25.
- B. Provide colors as directed by Owner.

## **PART 3 EXECUTION**

### **3.1 SCOPE -- SURFACES TO BE FINISHED**

- A. Paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.
- B. Paint the surfaces described in PART 2, indicated on the Drawings, and as follows:
  - 1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
  - 2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
  - 3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.
  - 4. Finish top, bottom, and side edges of exterior doors the same as exposed faces.
  - 5. Paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment occurring in finished areas to match background surfaces, unless otherwise indicated.
  - 6. Paint all mechanical and electrical equipment, including that which is factory-finished, exposed to weather or to view on the roof and outdoors.
  - 7. Paint shop-primed mechanical and electrical items occurring in finished areas.
  - 8. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

- C. Do Not Paint or Finish the Following Items:
1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
  2. Items indicated to receive other finish.
  3. Items indicated to remain naturally finished.
  4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
  5. Concealed piping, ductwork, and conduit.

### **3.2 EXAMINATION**

- A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials; report incompatible primer conditions and submit recommended changes for Agency Project Manager's approval.
- D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Wood: 15 percent, measured in accordance with ASTM D4442.

### **3.3 PREPARATION**

- A. Prepare surfaces as specified in MPI Architectural Painting Specification Manual and as follows for the applicable surface and coating; if multiple preparation treatments are specified, use as many as necessary for best results; where the Manual references external standards for preparation (e.g. SSPC standards), prepare as specified in those standards; comply with coating manufacturer's specific preparation methods or treatments, if any.
- B. Coordinate painting work with cleaning and preparation work so that dust and other contaminants do not fall on newly painted, wet surfaces.
- C. Surface Appurtenances: Prior to preparing surfaces or finishing, remove electrical plates, hardware, light fixtures, light fixture trim, escutcheons, machined surfaces, fittings, and similar items already installed that are not to be painted.
1. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before preparation and finishing.
  2. After completing painting in each space or area, reinstall items removed using workers skilled in the trades involved.
- D. Surfaces: Correct defects and clean surfaces which affect work of this section.
- E. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

- F. Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
- G. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

### 3.4 APPLICATION

- A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.
  - 1. Remove, refinish, or repaint work not complying with requirements.
- B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.
- C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.
  - 1. Brush Application: Use brushes best suited for the type of material applied; use brush of appropriate size for the surface or item being painted; produce results free of visible brush marks.
    - a. Not for use on doors and door frames.
  - 2. Roller Application: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
    - a. Not for use on doors and door frames.
  - 3. Spray Application: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
  - 4. Where application method is listed in the MPI Manual for the paint system that application method is required; otherwise any application method recommended by manufacturer for material used and objects to be painted is acceptable.
    - a. Exception: Doors and door frames.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.
  - 1. Number of coats and film thickness required are the same regardless of application method.
    - a. Minimum Coats: One coat of primer; two coats of finish paint.

2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.
  3. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive dry film thickness equivalent to that of flat surfaces.
- E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.
1. Before applying finish coats, apply a prime coat of material recommended by manufacturer, unless the surface has been prime coated by others; where evidence of suction spots or unsealed areas in first coat appear, recoat primed and sealed surfaces to ensure finish coat with no burn through or other defects due to insufficient sealing.
  2. Apply first coat to surface that has been cleaned, pretreated, or otherwise prepared as soon as practical after preparation and before subsequent surface deterioration.
  3. Do not apply succeeding coats until the previous coat has cured as recommended by manufacturer.
  4. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat will not cause the undercoat to lift or lose adhesion.
  5. If manufacturer's instructions recommend sanding to produce a smooth, even surface, sand between coats.
  6. Before applying next coat vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

### **3.5 CLEANING AND PROTECTION**

- A. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from site.
- C. Protect other work, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting as approved by Agency Project Manager.
- D. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
- E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in MPI Manual.

**END OF SECTION**

## SECTION 10 1400

### SIGNAGE

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Restroom identification signs.

##### 1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities; Final Rule; current adopted edition; (ADA Standards for Accessible Design).
- B. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; current adopted edition.
- C. ATBCB ADAAG - Americans with Disabilities Act Accessibility Guidelines; current adopted edition.

##### 1.03 SUBMITTALS

- A. See Section 400 for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Design: Submit design of each sign type with all color and copy shown, for approval.
- D. Verification Samples: Submit full size samples in proposed materials, colors and copy exactly as proposed for each sign type.
- E. Manufacturer's Installation Instructions: Include installation templates and attachment devices.

#### PART 2 PRODUCTS

##### 2.01 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: All signs are required to comply with ADA Standards for Accessible Design and ANSI/ICC A 117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

##### 2.02 SIGN TYPES

- A. Flat Signs: Signage media without frame.
  - 1. Edges: Square.
  - 2. Corners: Square.
  - 3. Materials:
    - a. Vandal-resistant and UV-resistant two layered laminated plastic.
    - b. 1 inch (25 mm) high letters.
    - c. 1/32 inch (.75 mm) raised copy and boarder.
    - d. Grade 2 braille under the lettering.
  - 4. Wall Mounting of One-Sided Signs: As recommended by sign manufacturer for vandal-resistant permanent exterior mounting without exposed fasteners.
- B. Color and Font: Unless otherwise indicated:
  - 1. Character Font: Helvetica, Arial, or other sans serif font.
  - 2. Character Case: Upper case only.
  - 3. Background Color: Dark Blue.

4. Character Color: White color.
- C. Sign quantity and copy:
1. Sign Type 1: 2 - "UNISEX" with unisex pictogram and braille.
  2. Sign Type 2: 1 – "MALE" with male pictogram and braille.
  3. Sign Type 3: 1 – "FEMALE" with female pictogram and braille.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. Install in accordance with manufacturer's instructions for vandal-resistant permanent exterior mounting without exposed fasteners.
- B. Install neatly, with horizontal edges level.
- C. Locate signs where indicated:
  1. If no location is indicated obtain Owner's instructions.
- D. Protect from damage until Substantial Completion; repair or replace damage items.

**END OF SECTION**



## SECTION 10 2800

### TOILET, BATH, AND LAUNDRY ACCESSORIES

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Accessories for toilet rooms.

##### 1.02 SUBMITTALS

- A. See Section 400 for submittal procedures.
- B. Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS

- A. Toilet Accessories:
  - 1. American Specialties, Inc: [www.americanspecialties.com](http://www.americanspecialties.com).
    - a. Standard of quality for soap dispenser only. Soap dispenser listed by American Specialties product number.
  - 2. Bradley Corporation: [www.bradleycorp.com](http://www.bradleycorp.com).
  - 3. Bobrick Washroom Equipment, Inc.: [www.bobrick.com](http://www.bobrick.com).
    - a. Standard of quality. Accessories are listed by Bobrick product number.
  - 4. Substitutions: Section 400.

##### 2.02 MATERIALS

- 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.
- B. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof, security type.
- C. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

##### 2.03 FINISHES

- A. Stainless Steel: No. 4 satin brushed finish.

#### PART 3 EXECUTION

##### 3.01 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.

##### 3.02 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings

**END OF SECTION**

**SECTION 11 3100**  
**RESIDENTIAL APPLIANCES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Cooking appliances.
  - 2. Kitchen exhaust ventilation.
  - 3. Refrigeration appliances.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.

**1.3 INFORMATIONAL SUBMITTALS**

- A. Product certificates.
- B. Warranties: Sample of special warranties.

**1.4 CLOSEOUT SUBMITTALS**

- A. Operation and maintenance data.

**1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer for installation and maintenance of units required for this Project.

**1.6 WARRANTY**

- A. Special Warranties: Manufacturer's standard form in which manufacturer agrees to repair or replace residential appliances or components that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Two years from date of Substantial Completion.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated or comparable product by one of the following:
1. Amana; a division of Whirlpool Corporation.
  2. ASKO North America; a division of AM Appliance Group.
  3. BOSCH Home Appliances.
  4. BSH Home Appliances Corporation (Gaggenau).
  5. BSH Home Appliances Corporation (Thermador).
  6. Dacor, Inc.
  7. Dynamic Cooking Systems, Inc.; a subsidiary of Fisher & Paykel Appliances Holdings Limited.
  8. Electrolux Home Products (Frigidaire).
  9. Fisher & Paykel.
  10. General Electric Company (GE).
  11. General Electric Company (Hotpoint).
  12. Jade Home Products Company.
  13. Jenn-Air; a division of Whirlpool Corporation.
  14. KitchenAid; a division of Whirlpool Corporation.
  15. LG Appliances.
  16. Maytag; a division of Whirlpool Corporation.
  17. Miele, Inc.
  18. Samsung.
  19. Sears Brands LLC (Kenmore).
  20. Sharp Electronics Corp.
  21. Sub-Zero, Inc.
  22. Thor Appliance Company.
  23. Viking Range Corporation.
  24. Whirlpool Corporation.
  25. Wolf Appliance, Inc.

### **2.2 RANGES**

- A. Electric Range Freestanding range with one oven and complying with AHAM ER-1.
1. Basis-of-Design Product: Maytag Model # MER6600FW.
  2. Electric Burner Elements: Five radiant-type burners.
  3. Anti-Tip Device: Manufacturer's standard.
  4. Material: Porcelain-enameled steel with manufacturer's standard cooktop.
  5. Color: As selected by Owner from full range of manufacturer's standard colors.

### **2.3 KITCHEN EXHAUST VENTILATION**

- A. Overhead Exhaust Hood:
1. Basis-of-Design Product: Maytag Model # UXT4230AYW
  2. Type: Wall-mounted, exhaust-hood system.
  3. Exhaust Fan: Built into hood and with manufacturer's standard capacity.

- a. Venting: Non-vented, recirculating type with charcoal filter.
4. Finish: Baked enamel.
5. Color: Match Range.

## **2.4 REFRIGERATOR/FREEZERS**

- A. Refrigerator/Freezer: Two-door refrigerator/freezer with freezer on top and complying with AHAM HRF-1.
  1. Basis-of-Design Product: Maytag Model # MRT311FFFH.
  2. Type: Freestanding.
  3. Storage Capacity:
    - a. Refrigeration Compartment Volume: 14.4 cu. ft. minimum.
    - b. Freezer Volume: 6.1 cu. ft. minimum.
  4. General Features:
    - a. Interior light in refrigeration compartment.
    - b. Automatic defrost.
    - c. Interior light in freezer compartment.
  5. Energy Performance, ENERGY STAR: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program.
  6. Front Panel(s): Manufacturer's standard Porcelain enamel.
  7. Color: Match Range.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION, GENERAL**

- A. Built-in Equipment: Securely anchor units to supporting cabinets or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and that rough openings are completely concealed.
- B. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.
- C. Range Anti-Tip Device: Install at each range according to manufacturer's written instructions.
- D. Utilities: Comply with plumbing and electrical requirements.

### **3.2 FIELD QUALITY CONTROL**

- A. Perform tests and inspections.
  1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Tests and Inspections:

1. Perform visual, mechanical, and electrical inspection and testing for each appliance according to manufacturers' written recommendations. Certify compliance with each manufacturer's appliance-performance parameters.
2. Leak Test: After installation, test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After installation, start units to confirm proper operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and components.

C. Prepare test and inspection reports.

**END OF SECTION**

**SECTION 11 5123**  
**LIBRARY STACK SYSTEMS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Library stack shelving.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of process and factory-fabricated product.

**PART 2 - PRODUCTS**

**2.1 SHELVING**

- A. Basis of Design: Demco Liberation wood and steel library shelving.
  - 1. Sizes and configurations as directed by Owner
  - 2. Cherry finish for wood surfaces.
  - 3. Shelving finish as directed by Owner based on full range of manufacturer's stock colors.

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- A. Before installing shelving, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

**3.2 INSTALLATION**

- A. Install library stack systems at locations indicated on Drawings and according to manufacturer's written instructions. Use concealed fasteners where possible.
- B. Level and plumb bookstack units to a tolerance of 1/8 inch in 96 inches.
- C. Install type of shelves at locations indicated and at spacing indicated or, if not indicated, at equal spacing in each unit.
- D. Install bookstacks using floor anchors, wall anchors, or top bracing in locations recommended by manufacturer.

**END OF SECTION**

## SECTION 12 3616

### METAL COUNTERTOPS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes stainless-steel countertops, backsplashes, and sinks.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, sections, details, and attachments to other work. Product design and layout to be by fabricator, to be compatible with work of Section 06 4113 "Wood-Veneer-Faced Architectural Cabinets", and to be designed in accordance with Owner's direction.

#### PART 2 - PRODUCTS

##### 2.1 MATERIALS

- A. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304.
- B. Sealant for Countertops: Manufacturer's standard sealant of characteristics indicated below that complies with applicable requirements in Section 07 9005 "Joint Sealers."
  - 1. Mildew-Resistant Joint Sealant: Mildew resistant, single component, nonsag, neutral curing, silicone.
  - 2. Color: Clear.

##### 2.2 STAINLESS-STEEL COUNTERTOPS, BACKSPASHES, AND SINKS

- A. Countertops: Fabricate from 0.062-inch- thick, stainless-steel sheet. Provide smooth, clean exposed tops and edges in uniform plane, free of defects. Provide front and end overhang of 1 inch over the base cabinets.
  - 1. Joints: Fabricate countertops without field-made joints.
  - 2. Weld shop-made joints.
  - 3. Sound deaden the undersurface with heavy-build mastic coating.
  - 4. Extend the top down to provide a 1-inch- thick edge with a 1/2-inch return flange.
  - 5. Form the backsplash coved to and integral with top surface, with a 1/2-inch- thick top edge and 1/2-inch return flange.
  - 6. Provide raised (marine) edge around perimeter of tops containing sinks; pitch tops containing sinks two ways to provide drainage without channeling or grooving.
  - 7. Where stainless-steel sinks occur in stainless-steel tops, factory weld into one integral unit.
- B. Stainless-Steel Sinks: Fabricate from stainless-steel sheet, not less than 0.050-inch nominal thickness. Fabricate with corners rounded and coved to at least 5/8-inch radius. Slope the sink bottoms to outlet without channeling or grooving. Provide continuous butt-welded joints.
  - 1. Provide manufacturer's closest standard size of equal or greater volume, as approved by Owner.

2. Provide double-wall construction for sink partitions with top edge rounded to at least 1/2-inch diameter.
3. Factory punch holes for fittings.
4. Provide sinks with stainless-steel strainers and tailpieces.
5. Provide sinks with integral rims except where located in stainless-steel countertops.
6. Apply 1/8-inch- thick coating of heat-resistant, sound-deadening mastic to undersink surfaces.

### **2.3 STAINLESS-STEEL FINISH**

- A. Grind and polish surfaces to produce uniform, directional satin finish matching No. 4 finish, with no evidence of welds and free of cross scratches. Run grain with long dimension of each piece. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces clean.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Install metal countertops level, plumb, and true; shim as required, using concealed shims.
- B. Field Jointing: Where possible, make field jointing in the same manner as shop jointing; use fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required.
- C. Secure tops to cabinets with Z- or L-type fasteners or equivalent; use two or more fasteners at each front, end, and back.
- D. Abut top and edge surfaces in one true plane, with internal supports placed to prevent deflection.
- E. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant.

### **3.2 CLEANING AND PROTECTION**

- A. Protection: Provide 6-mil plastic or other suitable water-resistant covering over the countertop surfaces. Tape to underside of countertop at a minimum of 48 inches o.c.

**END OF SECTION**



## SECTION 22 0000

### GENERAL PLUMBING PROVISIONS

#### PART 1 GENERAL

**1.01 GENERAL REQUIREMENTS:** All work covered under these provisions is to be "design/build" by contractor utilizing specific fixtures and materials as may be specified elsewhere in project Drawings or Specifications. Sections 400 - 600 requirements apply for the work specified in this Section.

**1.02 SCOPE OF WORK:** The work covered by this Specification shall include designing, drawing, and furnishing all labor, materials, equipment and services to construct and install the complete plumbing system as shown on the Drawings and specified herein. Contractor is responsible for obtaining any and all permits required for work covered by this Specification. In addition to any other submittals as may be required in this Section and Related Sections, Contractor shall submit a plumbing plan to Engineer for review. Verify all conditions on the job site and lay out work accordingly.

#### 1.03 RELATED WORK:

- A. The General Conditions apply to this Division, including but not limited to:
  - 1. Drawings and Specifications.
  - 2. Contract Modifications, addendums and change orders.
- B. Related work provided in Divisions 02 through 10.
- C. Related Work provided in Division 23 and 26.

#### 1.04 QUALITY ASSURANCE

- A. Regulatory Requirements:
  - 1. All work, installations, materials and equipment shall comply with the provision of the following codes, referenced standards, and regulations, except where more stringent requirements are shown or specified:
    - a. Oregon Plumbing Specialty Code.
    - b. Oregon Mechanical Specialty Code.
    - c. Oregon Structural Specialty Code.
    - d. Oregon Electrical Specialty Code.
    - e. Oregon Fire Code
    - f. All City, County, State and Federal applicable laws and regulations.
    - g. Regulations and standards set forth by ASME, ASHRAE, SMACNA, AGA and ARI.
  - 2. Should there be any direct conflict between Codes and the Drawings and Specifications, the Codes' rules and regulations shall govern.
  - 3. Where two or more codes or regulations apply, the more stringent of the two shall be exercised.
  - 4. Should the Documents indicate a condition, which will conflict with the Codes, the Contractor shall inform the Owner's Representative and refrain from installing that portion until resolved. Any work installed in violation of the Codes will be removed and correctly installed as part of the Contract work.
  - 5. If the Drawings and Specifications indicate a higher quality than code, the Drawings and Specifications shall govern.
  - 6. Electrical products shall bear the U.L. label.
- B. The entire plumbing system shall operate correctly at full capacity without objectionable noise, vibration or decrease of efficiency.
- C. Materials and Equipment:
  - 1. Equipment furnished shall meet all requirements of the Drawings and Specifications and

- be suitable for the installation. Equipment not meeting all requirements will not be acceptable.
2. Where two or more units of the same class of equipment are furnished, use products of the same manufacturer.
  3. Furnish all materials and equipment, new and of size, type and quality herein specified.
- D. Workmanship:
1. Follow manufacturers' instructions. If they are in conflict with the Drawings and Specifications, obtain clarification from the Engineer prior to beginning the work.
- E. Cutting and Patching:
1. Provide for cutting, patching and repairing for the installation of the work specified, including masonry work, concrete work, carpentry work and painting. Work shall be performed by skilled craftsmen of the respective trade.

#### **1.05 PROJECT CONDITIONS:**

- A. The locations of any utilities, wires, conduits, pipes, ducts, or other service facilities which may be shown in the Drawings are shown in a general way only. Ascertain whether any additional facilities other than those shown on the plans may be present and determine the exact location and elevations of all utilities prior to commencing installation.
- B. Prior to bid, contact the local utility companies to verify requirements. Provide all material and labor by utilities.
- C. The Contractor, before submitting a Bid on the work, must visit the site to become familiar with all visible existing conditions. As a result of having visited the premises, the Contractor shall be responsible for the installation of the work as it relates to such visible existing conditions. The submission of the bid will be considered an acknowledgement of the part of the Bidder of visitation to the site.
- D. The Contractor is responsible to apply for and obtain all necessary permits, fees and inspections required by any public authority having jurisdiction. Refer to General Conditions for additional information.
- E. Coordinate exact requirements governed by actual job conditions. Check all information and report all discrepancies before fabrication work. Report changes in the time to avoid unnecessary work. Make changes as directed by Owner's Representative.

#### **1.06 SUBSTITUTION AND PRODUCT OPTIONS:**

- A. See Section 400.
- B. The use of manufacturer's names, models and numbers in the Drawings and Specifications is intended to establish style, quality, appearance and usefulness. The model numbers listed are the last available to the designer; if no longer current, substitute equipment equal to or better than that represented by the model number listed. Items noted "or equivalent" will require prior acceptance.
- C. Submit for the Owner's Representative's review, manufacturer's detailed specifications and data sheets for all proposed substitutions. Submittals shall consist of a single sheet, or specific data need for consideration of approval. All pertinent data listed in the Specifications and on the Drawings shall be furnished, including all special features. See that all submittals are in proper order, and that all equipment will fit the space provided.
- D. All requests for approval of substitutions for materials other than those specified must be submitted in accordance with Instructions to Bidders.

- E. All changes required due to product substitutions are the responsibility of the Contractor.

**1.07 PROJECT RECORD DRAWINGS:**

- A. Obtain any available drawings from Owner.
- B. Keep Drawings clean, undamaged and up to date.
- C. Record and accurately indicate the following:
  - 1. Depths, sizes and locations of all buried and concealed piping.
  - 2. Locations of all clean-outs.
  - 3. Changes, additions and revisions due to contract modifications.
  - 4. Locations of tracer wire terminal points.
- D. Drawings to be available for Engineer review.
- E. Submit as a part of Project Closeout Documents

**1.08 CONTRACT MODIFICATIONS:**

- A. In addition to the requirements of the General Conditions, all supplemental cost proposals for this Division of work shall be accompanied by a complete itemized breakdown of labor and materials for each item. No exceptions will be made. Labor must be separated and allocated to each item of work. Changes or additions subject to additional compensation made without written authorization based on agreed price shall be at Contractor's own risk and expense.

**1.09 STORAGE AND HANDLING**

- A. Delivery: Deliver to project site with manufacturer's labels intact and legible.
- B. Handling: Avoid damage.
- C. Storage: Store material inside, protected from weather, dirt and construction dust. Where necessary to store outside, elevate well above grade and enclose with durable, waterproof wrapping.

**1.10 WARRANTY:**

- A. Provide a written guaranty covering the work of this Division for a period of one calendar year from the date of acceptance of the entire project as required by the General Conditions.
- B. Provide manufacturer's written warranties for material and equipment furnished under this Division insuring parts and labor for a period of one year from the date of acceptance of the entire project.
- C. Correct warranty items promptly upon notification.

**1.11 OPERATIONS AND MAINTENANCE DATA:**

- A. Prior to final inspection, provide three (3) copies of manufacturer's maintenance manuals for each piece of equipment or items requiring service. Manual shall include manufacturer's operation and maintenance instruction manuals and parts list for each piece of equipment or item requiring servicing. Include in the manual manufacturer's service data, wiring diagrams and parts lists for all major items of equipment, valve charts, balancing data and any additional equipment added by contract modification. Comply with provisions of Section 400 where applicable.
- B. Submit bound in 8-1/2 x 11 inch text pages, three ring binders with durable plastic covers.
- C. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.

- D. Internally subdivide the binder contents with permanent page dividers, logically organized with tab titling clearly printed under reinforced laminated plastic table.

#### **1.12 SUBMITTALS:**

- A. Design Drawings: Indicate the general layout of the piping and various items of equipment and fixtures, suitable for submission for a plan review by the authority having jurisdiction.
- B. Product Data:
  - 1. Submit for review manufacturer's detailed shop drawings, specifications and stat sheets for all equipment to be furnished, as well as any wiring diagram showing field installed wiring and devices. Arrangement of plumbing fixtures has been based on items of specific manufacturer intended as diagrammatic only.
  - 2. Indicate construction, capacities, accessories, etc. Manufacturer's abbreviations or codes are not acceptable.
- C. Submission Requirements:
  - 1. Shop Drawings and Product Data:
    - a. Refer to Section 400
  - 2. Sample: Submit samples required by each Section of Division 22 at the same time that shop drawings and product data are submitted.
- D. It shall be the Contractor's responsibility to:
  - 1. See that all submittals are in proper order.
  - 2. Ensure that all equipment will fit in the space provided.
  - 3. Assure that all deviation from Drawings and Specification are specifically noted and called to the attention of the Engineer/Contracting Officer in the submittals. Failure to comply will void approval automatically.
  - 4. Deviation, discrepancies, and conflicts between the submittals and the contract documents discovered prior to or after the review process shall not relieve the Contractor of this responsibility to comply with the contract documents.

**1.13 FEES, PERMITS AND INSPECTIONS:** The Contractor is responsible to apply for and obtain all necessary permits, fees and inspections required by any public authority having jurisdiction. Refer to General Conditions for additional information.

#### **1.14 DEFINITIONS**

- A. "Furnish": Means to supply and deliver to the project site, ready for unloading, unpacking, assembly, installation and similar operations.
- B. "Install": Describes operations at project site including actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.
- C. "Provide": Means to furnish and Install, complete and ready for intended use.

### **PART 2 PRODUCTS**

#### **2.01 MATERIAL:**

- A. All materials and products used for construction shall be new, of the best grade, and latest products as listed in printed catalog data. All articles of a kind shall be the standard product of a single manufacturer. Trade names and manufacturers names denote a character and quality of equipment desired and shall not be construed as limiting competition.
- B. Asbestos: Do not use products made of or containing asbestos.

#### **2.02 QUALITY ASSURANCE**

- A. Refer to Section 400 for information regarding available alternatives to materials and equipment specified herein. Product listings are for informational purposes only and establish a general standard of quality.
- B. Provide products which are compatible with other portions of the work.

### **PART 3 EXECUTION**

#### **3.01 INSPECTION:**

- A. All work and materials are subject to field observation at any and all times by the Owner's Representative.
- B. The Contractor shall notify the Owner's Representative a minimum of two days prior to testing any piping system which must be witnessed and accepted before it is covered up or enclosed.
- C. Cover or otherwise suitably protect equipment and materials stored on the job site.

#### **3.02 CLEANING**

- A. General: Clean plumbing equipment, fixtures, piping of stampings and markings (except those required by codes), iron cuttings, and other refuse.
- B. Painted Surfaces: Clean scratched or marred painted surfaces of rust or other foreign matter and paint with matching color industrial enamel, except as otherwise noted.
- C. Before operating any equipment or systems, make thorough check to determine that systems have been flushed and cleaned as required and equipment has been properly installed, lubricated and serviced. Check factory instructions to see that installations have been made accordingly and that recommended lubricants have been used.
- D. Check equipment for damage that may have occurred during shipment, after delivery or during installation. Repair damaged equipment as approved or replace with new equipment.

#### **3.03 LAYOUT AND COORDINATION**

- A. Site Examination: Before starting work, carefully examine site and all contract Drawings so as to become thoroughly familiar with conditions governing work on this project. Verify all indicated elevations, building measurements, roughing-in dimensions and equipment locations before proceeding with any of the work.
- B. The existence of any wires, conduits, pipes, ducts or other service facilities is not necessarily shown. It will be the duty of the Contractor to visit the site and make exact determination of the existence of any such facilities prior to submitting a bid. It is understood that the Contractor will be responsible for making the exact determination of the location and condition of these facilities.
- C. The exact location and elevation of all public and private utilities must be determined by the Contractor. It shall be the duty of the Contractor to ascertain whether any additional facilities other than those shown may be present.
- D. Sleeves, Inserts, Cast-in-Place Work: provide sleeves, inserts, anchoring devices, cast-in-place work, etc. which must be set in concrete sequenced at the proper time for the project schedule.
- E. Coordination:
  - 1. Where the work must be sequenced and positioned with precision in order to fit into the available space, prepare accurate scale shop drawings showing the actual physical dimensions required for the installation and submit prior to purchase-fabrication-installation of any of the elements involved in the coordination.
  - 2. Cooperate with other trades in furnishing material and information for sleeves, bucks,

chases, mountings, backing, foundations and wiring required for installation of mechanical items.

3. Coordinate all work with other trades and determine in advance where interfacing of the plumbing work and other work are required to be connected together. Provide all materials and equipment to make those connections. Submit shop drawings showing required connections where special conditions exist.
- F. Discrepancies: Report immediately any error, conflict or discrepancy in Drawings, Specifications and/or existing conditions. Do not proceed with any questionable items of work until clarification of same has been made. Should rearrangement or re-routing of ducts or piping be necessary, provide for approval the simplest layout possible for that particular portion of the work.

### **3.04 TEMPORARY FACILITIES AND CONTROLS**

- A. Comply with Section 400 requirements.
- B. Permanent plumbing systems' equipment utilized for temporary facilities shall be started with all controls and safeties installed and operational.
- C. Owner's warranties shall not be abridged by Contractor's use of the permanent systems' equipment prior to final acceptance. Warranty period shall begin at final completion.

### **3.05 CLOSEOUT**

- A. General: Refer to Section 400 for general closeout requirements. Calibrate all equipment requiring same.
- B. Record Drawings: Submit record set of drawings required in Section 400 and this section.
- C. Closeout Equipment/Systems Operations: Sequence operations properly so that work of project will not be damaged or endangered. Coordinate with seasonal requirements. Operate each item of equipment and each system in a test run of appropriate duration with the Owner's operating personnel present, to demonstrate sustained, satisfactory performance. Adjust and correct operations as required for proper performance. Clean and lubricate each system, and replace dirty strainers, excessively worn parts and similar expendable items of the work.
- D. Operation and Instruction: Contractor shall provide necessary written manuals and training aides explaining operational diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety and similar features of the installed system. Three (3) copies of written manuals shall be left with Owner at end of training.

**END OF SECTION**

**SECTION 22 0300**  
**PLUMBING SYSTEMS**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. The requirement of this section applies to the plumbing system.

**1.02 QUALITY ASSURANCE**

- A. Codes: Section 22 0000.
- B. Fixtures: By same manufacturer for each product specified throughout. Color shall be stainless steel unless indicated otherwise.
- C. Trim: By same manufacturer for each product specified throughout.

**1.03 SUBMITTALS**

- A. Submit product data under provisions of Section 22 0000.
- B. Include fixtures, sizes, utility sizes, trim, and finishes.
- C. Submit for:
  - 1. All fixtures.

**1.04 PLUMBING FIXTURES**

- A. General: Provide factory fabricated fixtures of type, style and material indicated on the plumbing fixture connection schedule. For each type fixture, provide manufacturer's standard trim, carrier, seats and valves as scheduled or as recommended by manufacturer as required for complete installation.
  - 1. Fixtures: Complete with fittings, supports, fastening devices, faucets, valves, traps, stops and additional devices required.
  - 2. Exposed IPS Piping and Tubing: Brass, chrome plated.
  - 3. Escutcheons: Brass, chrome plated.
  - 4. Fixture Locations: As shown on Architectural Drawings.
  - 5. Stops: Stops installed on each supply pipe at each fixture accessibly located with wall escutcheons.
  - 6. Public lavatories, Interior Faucets: Provide with flow control device per code.

**1.05 OPERATION AND MAINTENANCE DATA**

- A. Submit operation and maintenance data under provisions of Section 22 0000.

**PART 2 PRODUCTS**

**2.01 INTERIOR PLUMBING MATERIALS**

- A. Cleanouts:

1. Manufacturer: J.R. Smith, Jonespec, Zurn, Wade, or accepted substitute.
2. Types:
  - a. Tile Floor Cleanouts: Smith 4053-U with square heavy-duty nickel bronze top, taper thread, bronze plug, and vandalproof screws.
  - b. Carpeted Floor Cleanout: Smith 4023-U-X with round heavy-duty nickel bronze top, taper thread, bronze plug, carpet clamping device and vandalproof screws.
  - c. Concrete Floor Cleanout: Smith 4023-U with round heavy-duty nickel bronze top, stainless steel shallow cover and vandalproof screws.
  - d. Wall Cleanouts: Smith 4472-U, bronze ferrule with raised head bronze plug, stainless steel shallow cover and vandalproof screws.
  - e. Outside Area Walks and Drives: Smith 4253-U-G with galvanized cast iron body, top secured with vandalproof screws, taper thread and bronze plug. Install in 18" x 18" x 6" deep concrete pad flush with grade.
- B. Flashing: Minimum 4# sheet lead; to extend horizontally 10" from edge of vent penetrations or rain drain body and vertically 12" minimum up from roof turned over and down into hub of vent or finished with bronze cap providing counterflashing for screwed pipe.
- C. Traps: Provide traps on all fixtures except fixtures with integral traps. Exposed traps chromium plated cast brass or 17 gauge chrome plated brass tubing. American Standard, Kohler, Chicago, Brasskraft, Eastman, Speedway, McGuire or approved substitute.
- D. Supplies and Stops: First quality, chrome plated with brass stems. Stops: loose key type. American Standard, Kohler, Chicago, Brasskraft, Eastman, Speedway, McGuire or approved substitute.

## 2.02 PLUMBING FIXTURES

- A. Stops: Furnish stop valves for all fixtures. In-line non-adjustable (pattern to fit installation). Kohler, Speedway, Chicago, Eastman, Brasskraft, or accepted substitute.
- B. Water Closet
  1. Install each water closet with code approved electric flush meter, quiet acting, chrome plated, screwdriver stop and vacuum breaker as recommended by water closet manufacturer.
  2. Basis of design as indicated on Drawings.
- C. Lavatories
  1. Provide with wall backing plate for lavatory assembly and assemble lavatory with faucet as required.
  2. Basis of design as indicated on Drawings.
- D. Water Closet Seats
  1. As selected by Owner unless furnished with macerating toilet system.
- E. Floor Drains



1. FD-1 Cast iron body, double drainage flange with weep holes, priming connection, nickel bronze strainer finish, flashing clamp device, adjustable or insert type strainer. Comply with ANSI. Smith Model 2005-A, Josam, Zurn or accepted substitute.
- F. Floor Drains integral cleanout
1. FD-2 Cast iron body, double drainage flange with weep holes, priming connection, nickel bronze strainer finish, flashing clamp device, adjustable or insert type strainer. Comply with ANSI.
  2. Bases of design, Manufacture Model, Smith Model 2040.
- G. Auto-flush valve
1. Quiet, diaphragm type, chrome plated closet flushometer, infrared sensor with indicator light, chrome plated wall cover plates with vandal resistant screws.
  2. Basis of design, Manufacturer Model: Royal 152-1.6 ES-S.

### **2.03 PIPE SLEEVES**

- A. Interior Wall Sleeves: 12 gage galvanized steel, flush with wall on both sides.
- B. Interior Floor Sleeves: 12 gage galvanized steel and extend 2-inches above finished floor.
- C. Exterior Wall Sleeves: Cast iron, flush with wall on both sides.
- D. On Grade Floor Sleeves: Same as exterior wall sleeves.

### **2.04 ESCUTCHEONS**

- A. Brass material, chrome plated finish. Size sufficient to cover all pipe openings through wall, floor or ceiling. Set screw or spring to secure to pipe.

### **2.05 UNIONS**

- A. Steel pipe union shall be 150-pound malleable iron, brass to iron seat, ground joint, black or galvanized to match pipe.
- B. Copper pipe union shall be 200 psig working pressure. Bronze body. Solder ends.
- C. Insulating unions shall be 250 psig working pressure. Pipe ends and material to match piping. Electric current below 1% of galvanic current. Gasket material as recommended by manufacturer. Epco or approved.

## **PART 3 EXECUTION**

### **3.01 INSPECTION**

- A. Confirm location and size of fixtures and openings before rough-in and installation.
- B. Verify adjacent construction is ready to receive rough-in work of this Section.
- C. Review rough-in locations of potable water and waste piping systems to verify actual locations prior to installing fixtures.

### **3.02 INSTALLATION**

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Install components level and plumb.
- C. Install and secure fixtures in place with wall carriers and bolts. Install fixtures as shown on drawings.
  - 1. Support any wall hung water closets and urinals on heavy duty, concealed, chair carriers mounted to floor structure.
  - 2. Support wall hung lavatories mounted on stud partitions on heavy concealed wall brackets bolted to a steel plate anchored firmly to studs with bolts. Plate to extend one stud each way beyond fixture mounting point width. Floor mounted concealed arm carriers approved.
  - 3. In room 119, extend existing pipe stubs within wall to service new fixtures. In room 109, locate and extend existing pipe stubs under floor or within walls to service new fixtures.
- D. Cleanouts
  - 1. Where required by code, at each change of sewer direction 45 degrees or greater and more than 10' long, at end of each branch or main and spaced not greater than 100' apart, as required by code and/or as shown on Drawings.
- E. Install all devices in accordance with manufacturer's written instructions and recommendations.
- F. Provide waste piping to plumbing fixtures and drains, with approved trap, of sizes indicated; but in no case smaller than required by code.
- G. Mechanical Equipment Connections: Connect piping system to mechanical equipment as indicated, if applicable. Comply with equipment manufacturer's instructions. Provide shutoff valve and union for each connection. Provide drain valve on drain connection.
- H. Water Hammer Arrestors, if applicable: Install in upright position, in locations and of sizes per PDI WH-201.
- I. Arrange locations of valves, unions, drains and other components to provide for ease of maintenance, repair or service. Size access panels and locate to provide working spaces for all devices served by access.
- J. Provide valves and shock arrestors where required by code and where otherwise indicated in Specifications and on Drawings.
- K. Fixtures:
  - 1. Install plumbing fixtures where shown and at appropriate heights; in accordance with fixture manufacturer's written instructions, roughing-in drawings and industry standards.
  - 2. Set and connect to soil, waste, vent and water piping in neat, uniform manner. Connections to be plumb and set at right angles to floor and wall unless otherwise required.
  - 3. Seal fixtures mounted on floors and walls with permanently flexible, waterproof, silicon-based sealant compounds.
  - 4. Set mixing valves of lavatories to limit temperature to 110°F.

- L. Stops: Screwdriver or loose key stops to be installed in hot and cold supply pipe to each fixture accessibly located.
- M. Floor Drains:
  - 1. Install drains in accordance with manufacturer's written instructions. See Drawings for locations, if any.
  - 2. Install floor drains at low points of areas to be drained or as indicated. Grate to be flush with finished floor. Set floor sinks as required by local codes.
  - 3. Install drain flashing collar or flange so that no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
  - 4. Prime all drains. Contractor to prime all drain traps at close of construction. Do not utilize trap primers for fill. Coordinate with local authorities for exact requirements.
- N. Hose Bibbs:
  - 1. Install where shown, if applicable in accordance with manufacturer's installation instructions.

### **3.03 ADJUSTING AND CLEANING**

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow
- B. At completion clean plumbing fixtures and equipment.
- C. Solidly attach water closets to floor with mechanical fasteners. Lead flashing is not intended to hold fixture in place.

### **3.04 INSPECTION**

- A. Upon completion of installation of plumbing fixtures and after units are water pressurized, test fixtures to demonstrate capability and compliance with requirements. When possible, correct malfunctioning units at site, then retest to demonstrate compliance; otherwise, remove and replace with new units and proceed with retesting.
- B. Inspect each installed unit for damage to finish. If feasible, restore and match finish to original at site; otherwise, remove fixture and replace with new unit. Feasibility and match to be judged by Engineer. Remove cracked or dented units and replace with new units.

**END OF SECTION**

**SECTION 22 0700**  
**MECHANICAL INSULATION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Provide piping and equipment insulation including jacketing, adhesive and all related accessories for complete insulated system.

**1.02 QUALITY ASSURANCE**

- A. Applicator: Company specializing in piping insulation application with three years minimum experience.
- B. Insulation, Jacket and all Related Materials: Flame spread rating of 25 and smoke developed rating of 50.
- C. Codes: Comply with all applicable codes.
- D. Installation: Install in accordance with Manufacturer's recommendations.

**1.03 SUBMITTALS**

- A. Submit product data and installation instructions under provisions of Section 22 0000.
- B. Include product description, list of materials and thickness for each service, and locations.

**1.04 DELIVERY, STORAGE AND HANDLING**

- A. Deliver product to site under provisions of Section 22 0000.
- B. Store and protect product under provisions of Section 22 0000.
- C. Store insulation in original shipping container with labeling in place. Do not install damaged insulation.

**1.05 FIRE HAZARD CLASSIFICATION**

- A. Maximum fire hazard classification of the composite insulation to be not more than a flame spread of 25, fuel contributed of 50 and smoke developed of 50 as tested by ASTM E84, NFPA 255 and UL 723 method.
- B. Test pipe insulation in accordance with the requirements of UL "Pipe and Equipment Coverings R5583 400 8.15.", ASTM C1136 and ASTM C547.
- C. Test duct insulation in accordance with ASTM E84 and ASTM C1071 and bear the UL label.

**PART 2 PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS**

- A. Insulating Manufacturers: Johns Manville, Knauf, Armstrong, Owens-Corning, Pabco, IMCOA, Certain Teed or accepted substitute.
- B. Adhesive Manufacturers: Benjamin Foster, 3M, Borden, Kingco or Armstrong.

**2.02 PIPING INSULATION, JACKETING AND ACCESSORIES**

- A. Fiberglass Pipe Insulation:
  - 1. Pipe system to minus 10 to 55 deg. F: Flexible, preformed, pre-slit, self-sealing elastomeric, thermal conductivity of 0.27 Btu/hr. sq. ft./in. at 75 deg. F and vapor transmission rating of 0.2 perms/inch. Apply in thickness necessary to prevent

- condensation on the surface.
2. Piping Systems 55 to 600 deg. F: Glass fiber preformed pipe insulation with a minimum K- value of 0.23 at 75 deg. F, a minimum density of 3.5 pounds per cubic foot.
  3. Pipe System Up to 1200 deg. F: High temperature molded calcium silicate insulation with factory applied aluminum metal jacket. Furnish with aluminum snap straps.
- B. Elastomeric Foam: ASTM C534; flexible, cellular elastomeric. Thermal Conductivity value: 0.27 at 75°F. Maximum Flame Spread: 25. Maximum Smoke Developed: 50 (3/4-inch thick and below). Connection: Waterproof vapor retarder adhesive as needed. UV Protection: UV outdoor protective coating as needed.
- C. Plastic Pipe Insulation: Flexible unicellular polyolefin foam insulation complying to ASTM C534, ASTM E84 (25/50), UL 723 (25/50). Thermal conductivity of 0.24 (BTU/in)/(hr/sq.ft./deg. F) at 75°F. Preslit longitudinal seam. Imoca.
- D. Fiberglass Insulation: Flexible Fiber Glass Blanket: ASTM C612; flexible. Thermal Conductivity Value: 0.24 at 75°F. Maximum Service Temperature: 450°F.
- E. Handicapped Lavatory Insulation Kit: ASTM: P-traps, hot water and cold water insulating guards. Molded closed cell vinyl with nylon fasteners, paintable. Thermal conductivity: K=1.17 (BTU/in)/(hr/sq.ft./deg. F) at 75°F mean temperature. Provide accessories as required for complete installation. Color white. Truebro Inc. Model 102. McGuire, ProWrap, Brocar Trap Wrap or accepted substitute.
- F. Jackets:
1. Interior Applications:
    - a. Vapor Barrier Jackets: Kraft reinforced foil or vinyl vapor barrier with self-sealing adhesive joints or pressure sensitive seal.
    - b. PVC Jackets: One piece, premolded type. "
  2. Exterior Applications:
    - a. Aluminum Jackets: ASTM B209; 0.016 inch thick; smooth finish.
    - b. Stainless Steel Jackets: Type 316 stainless steel; 0.010 inch thick; smooth finish.
- G. Accessories:
1. Insulation Bands: 3/4 inch wide; 16 gauge stainless steel.
  2. Metal Jacket Bands: 0.25 thick stainless steel.
  3. Insulating Cement: ANSI/ASTM C195; hydraulic setting mineral wool.
  4. Finishing Cement: ASTM C449.
  5. Fibrous Glass Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.

### **2.03 EQUIPMENT INSULATION**

- A. Equipment Temperatures Below 70 deg. F: Flexible, closed cell, elastomeric sheet insulation of 5.5 #/cubit feet density and 0.27 thermal conductivity at 75 deg. F.
- B. Equipment Temperatures from 70 deg. F to 450 deg. F: Glass fiber 3 pound density insulation with a 0.23 thermal conductivity at 75 deg. F. Foil jacket or finished as recommended by manufacturer.
- C. Exterior Tanks and Equipment Insulation Covering: Same as interior insulation with weatherproof metal or finished as recommended by insulation manufacturer.

### **2.04 PIPE FITTING INSULATION COVERS**

- A. PVC preformed molded insulation covers. Zeston or accepted substitute.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Install materials after piping, ductwork and equipment has been tested and approved.

**3.02 PIPING INSULATION INSTALLATION**

- A. Install materials in accordance with manufacturer's instructions.
- B. Continue insulation with vapor barrier through penetrations.
- C. In exposed piping, locate insulation and cover seams in least visible locations.
- D. Provide an insert, not less than 6 inches long, of same thickness and contour as adjoining insulation, between support shield and piping, but under the finish jacket, on piping 2 inches diameter or larger, to prevent insulation from sagging at support points. Inserts shall be cork or other heavy density insulating material suitable for the planned temperature range. Factory fabricated inserts may be used.
- E. Neatly finish insulation at supports, protrusions, and interruptions.
- F. Jackets:
  - 1. Indoor Applications: Insulated pipes conveying fluids above ambient temperature shall have standard jackets, with vapor barrier, factory-applied or field applied. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass cloth and adhesive.
  - 2. Exterior Applications: Provide vapor barrier jackets. Cover with aluminum jacket with seams located on bottom side of horizontal piping. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor barrier cement.
  - 3. Buried Piping: Do not insulate underground piping unless otherwise noted.
- G. Piping Insulation Schedule:

<u>PIPING</u>	<u>PIPE SIZE</u>	<u>INSULATION</u>
Domestic Cold	All	½" fiberglass
Domestic Hot/Tempered and Recirculating	2" and Smaller 2-1/2" and Larger	1-1/2" fiberglass 1-1/2" fiberglass
Piping Exposed to Freezing Horizontal and vertical	All Sizes	1-1/2" fiberglass

- H. Pipe Fittings:
  - 1. Insulate and finish all fittings including valve bodies, bonnets, unions, flanges and expansion joints with precut fiberglass insulation and preformed PVC covers sealed to adjacent insulation jacket for continuous vapor barrier covering over all fittings.
- J. Piping Insulation Lap Seams and Butt Joints: Install insulation jacket in accordance with manufacturer's recommendation. Where jacket joint and lap seams have not adhered, remove affected section of insulation and reinstall.
- K. Heat Tracing: Where electric heat tape is to be installed on piping, insulate over the tape.

**3.03 PLASTIC PIPE INSULATION**

- A. Slip insulation on pipe prior to connection. Butt joints sealed with manufacturer's adhesive. Insulate fitting with miter-cut pieces. Cover all insulation exposed to the weather and under grade with 2 coats of finish as recommended by manufacturer.

**3.04 FLEXIBLE ELASTOMERIC TUBING**

- A. Slip insulation over piping or if piping is already installed, it should be slit and snapped over the piping. All joints and butt ends must be adhered with adhesive.

### **3.05 INSULATION SHIELDS**

- A. Provide full size diameter hangers and shields (18 gauge minimum) for all cold piping. Hot water piping hangers may penetrate insulation to contact piping directly.

**END OF SECTION**

## SECTION 23 0000

### HEATING, VENTILATION, AND AIR CONDITIONING PROVISIONS

#### PART 1 GENERAL

**1.01 GENERAL REQUIREMENTS:** All work covered under these provisions is to be “design/build” by contractor utilizing specific equipment and materials as may be specified elsewhere in project Drawings or Specifications. Sections 400 – 600 requirements apply for the work specified in this Section.

**1.02 SCOPE OF WORK:** The work covered by this Specification shall include designing, drawing, and furnishing all labor, materials, equipment and services to construct and install the complete mechanical system as required by the applicable code and by the Owner and as specified herein. Contractor is responsible for obtaining any and all permits required for work covered by this Specification. In addition to any other submittals as may be required in this Section and Related Sections, Contractor shall submit a mechanical plan to Engineer for review. Verify all conditions on the job site and lay out work accordingly.

#### 1.03 RELATED WORK:

- A. The General Conditions apply to this Division, including but not limited to:
  - 1. Drawings and Specifications.
  - 2. Contract Modifications, addendums and change orders.
- B. Related work provided in Divisions 02 through 10.
- C. Related Work provided in Division 22 and 26.

#### 1.04 QUALITY ASSURANCE

- A. Regulatory Requirements:
  - 1. All work, installations, materials and equipment shall comply with the provision of the following codes, referenced standards, and regulations, except where more stringent requirements are shown or specified:
    - a. Oregon Plumbing Specialty Code.
    - b. Oregon Mechanical Specialty Code.
    - c. Oregon Structural Specialty Code.
    - d. Oregon Electrical Specialty Code.
    - e. Oregon Fire Code
    - f. All City, County, State and Federal applicable laws and regulations.
    - g. Regulations and standards set forth by ASME, ASHRAE, SMACNA, AGA and ARI.
  - 2. Should there be any direct conflict between Codes and the Drawings and Specifications, the Codes’ rules and regulations shall govern.
  - 3. Where two or more codes or regulations apply, the more stringent of the two shall be exercised.
  - 4. Should the Documents indicate a condition, which will conflict with the Codes, the Contractor shall inform the Owner’s Representative and refrain from installing that portion until resolved. Any work installed in violation of the Codes will be removed and correctly installed as part of the Contract work.
  - 5. If the Drawings and Specifications indicate a higher quality than code, the Drawings and Specifications shall govern.
  - 6. Electrical products shall bear the U.L. label.
- B. The entire mechanical system shall operate correctly at full capacity without objectionable



noise, vibration or decrease of efficiency.

- C. Materials and Equipment:
  - 1. Equipment furnished shall meet all requirements of the Drawings and Specifications and be suitable for the installation. Equipment not meeting all requirements will not be acceptable.
  - 2. Where two or more units of the same class of equipment are furnished, use products of the same manufacturer.
  - 3. Furnish all materials and equipment, new and of size, type and quality herein specified.
- D. Workmanship:
  - 1. Follow manufacturers' instructions. If they are in conflict with the Drawings and Specifications, obtain clarification from the Engineer prior to beginning the work.
- E. Cutting and Patching:
  - 1. Provide for cutting, patching and repairing for the installation of the work specified, including masonry work, concrete work, carpentry work and painting. Work shall be performed by skilled craftsmen of the respective trade.

#### **1.05 PROJECT CONDITIONS:**

- A. The locations of any utilities, wires, conduits, pipes, ducts, or other service facilities which may be shown on the Drawings are shown in a general way only. Ascertain whether any additional facilities other than those shown on the plans may be present and determine the exact location and elevations of all utilities prior to commencing installation.
- B. Prior to bid, contact the local utility companies to verify requirements. Provide all material and labor by utilities.
- C. The Contractor, before submitting a Bid on the work, must visit the site to become familiar with all visible existing conditions. As a result of having visited the premises, the Contractor shall be responsible for the installation of the work as it relates to such visible existing conditions. The submission of the bid will be considered an acknowledgement of the part of the Bidder of visitation to the site.
- D. The Contractor is responsible to apply for and obtain all necessary permits, fees and inspections required by any public authority having jurisdiction. Refer to General Conditions for additional information.
- E. Coordinate exact requirements governed by actual job conditions. Check all information and report all discrepancies before fabrication work. Report changes in the time to avoid unnecessary work. Make changes as directed by Owner's Representative.

#### **1.06 SUBSTITUTION AND PRODUCT OPTIONS:**

- A. See Section 400.
- B. The use of manufacturer's names, models and numbers in the Drawings and Specifications is intended to establish style, quality, appearance and usefulness. The model numbers listed are the last available to the designer, if no longer current, substitute equipment equal to or better than that represented by the model number listed. Items noted "or equivalent" will require prior acceptance.
- C. Submit for the Owner's Representative's review, manufacturer's detailed specifications and data sheets for all proposed substitutions. Submittals shall consist of a single sheet, or specific data need for consideration of approval. All pertinent data listed in the Specifications and on the Drawings shall be furnished, including all special features. See that all submittals are in proper order, and that all equipment will fit the space provided.

- D. All requests for approval of substitutions for materials other than those specified must be submitted in accordance with Instruction to Bidder.
- E. All changes required due to product substitutions are the responsibility of the Contractor.

**1.07 PROJECT RECORD DRAWINGS:**

- A. Obtain any available drawings from Owner.
- B. Keep Drawings clean, undamaged and up to date.
- C. Record and accurately indicate the following:
  - 1. Depths, sizes and locations of all buried and concealed piping.
  - 2. Locations of all equipment.
  - 3. Changes, additions and revisions due to contract modifications.
- D. Drawings to be available for Engineer review.
- E. Submit as a part of Project Closeout Documents

**1.08 CONTRACT MODIFICATIONS:**

- A. In addition to the requirements of the General Conditions, all supplemental cost proposals for this Division of work shall be accompanied by a complete itemized breakdown of labor and materials for each item. No exceptions will be made. Contract's estimating sheets for supplemental cost proposals shall be made available upon request. Labor must be separated and allocated to each item of work. Changes or additions subject to additional compensation made without written authorization based on agreed price shall be at Contractor's own risk and expense.

**1.09 STORAGE AND HANDLING**

- A. Delivery: Deliver to project site with manufacturer's labels intact and legible.
- B. Handling: Avoid damage.
- C. Storage: Store material inside, protected from weather, dirt and construction dust. Where necessary to store outside, elevate well above grade and enclose with durable, waterproof wrapping.

**1.10 WARRANTY:**

- A. Provide a written guaranty covering the work of this Division for a period of one calendar year from the date of acceptance of the entire project as required by the General Conditions.
- B. Provide manufacturer's written warranties for material and equipment furnished under this Division insuring parts and labor for a period of one year from the date of acceptance of the entire project.
- C. Correct warranty items promptly upon notification.

**1.11 OPERATIONS AND MAINTENANCE DATA:**

- A. Prior to final inspection, provide three (3) copies of manufacturer's maintenance manuals for each piece of equipment or items requiring service. Manual shall include manufacturer's operation and maintenance instruction manuals and parts list for each piece of equipment or item requiring servicing. Include in the manual manufacturer's service data, wiring diagrams and parts lists for all major items of equipment, valve charts, balancing data and any additional equipment added by contract modification. Comply with provisions of Section 400 where applicable.

- B. Submit bound in 8-1/2 x 11 inch text pages, three ring binders with durable plastic covers.
- C. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide the binder contents with permanent page dividers, logically organized with tab titling clearly printed under reinforced laminated plastic table.

**1.13 SUBMITTALS:**

- A. Design Drawings: Indicate the general layout of the equipment and ducting, suitable for submission for a plan review by the authority having jurisdiction.
- B. Product Data:
  - 1. Submit for review manufacturer's detailed shop drawings, specifications and stat sheets for all equipment to be furnished, as well as any wiring diagram showing field installed wiring and devices. Arrangement of mechanical fixtures has been based on items of specific manufacturer intended as diagrammatic only.
  - 2. Indicate construction, capacities, accessories, etc. Manufacturer's abbreviations or codes are not acceptable.
  - 3. List the name of the motor manufacturer for each piece of equipment.
- C. Submission Requirements:
  - 1. Shop Drawings and Product Data:
    - a. Refer to Section 400
  - 2. Sample: Submit any samples required at the same time that shop drawings and product data are submitted.
- D. It shall be the Contractor's responsibility to:
  - 1. See that all submittals are in proper order.
  - 2. Ensure that all equipment will fit in the space provided.
  - 3. Assure that all deviation from Drawings and Specification are specifically noted and called to the attention of the Engineer/Contracting Officer in the submittals. Failure to comply will void approval automatically.
  - 4. Deviation, discrepancies, and conflicts between the submittals and the contract documents discovered prior to or after the review process shall not relieve the Contractor of this responsibility to comply with the contract documents.

**1.14 START-UP:**

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Owner's Representative seven days prior to start-up of each item.
- C. Verify that each piece of equipment of system has been checked prior to start-up for proper lubrication, drive rotation, belt tension, control sequence, or other conditions, which may cause damage.
- D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are completed and tested.
- F. Execute start-up under supervision of responsible manufacturer's representative or Contractor's personnel in accordance with manufacturer's instructions.

**1.15 FEES, PERMITS AND INSPECTIONS:** The Contractor is responsible to apply for and obtain all necessary permits, fees and inspections required by any public authority having jurisdiction. Refer to General Conditions for additional information.

## **1.16 DEFINITIONS**

- A. "Furnish": Means to supply and deliver to the project site, ready for unloading, unpacking, assembly, installation and similar operations.
- B. "Install": Describes operations at project site including actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.
- C. "Provide": Means to furnish and Install, complete and ready for intended use.

## **PART 2 PRODUCTS**

### **2.01 MATERIAL**

- A. All materials and products used for construction shall be new, of the best grade, and latest products as listed in printed catalog data. All articles of a kind shall be the standard product of a single manufacturer. Trade names and manufacturers names denote a character and quality of equipment desired and shall not be construed as limiting competition.
- B. Asbestos: Do not use products made of or containing asbestos.

### **2.02 QUALITY ASSURANCE**

- A. Refer to Section 400 for information regarding available alternatives to materials and equipment specified herein. Product listings are for informational purposes only and establish a general standard of quality.
- B. Provide products which are compatible with other portions of the work and provide products with the proper and correct power and fuel burner characteristics and similar adaptations for the project.

### **2.03 BASIC FUNCTION**

- A. Provide artificial means of controlling temperature, relative humidity, velocity, and direction of air motion in the interior spaces identified below enclosed by the shell, and reduction of airborne odors, particulates, and contaminant gases.
- B. Provide a complete system for rooms 101, 102, 104, 108, 109, 119, 120, and 121 composed of a commercial system with heating, ventilation, and exhaust capabilities.
- C. Heat source shall be from the building's electric service.
- D. Space temperature: Provide a system capable of maintaining a temperature of 75 degrees Fahrenheit unless another temperature is specified by Owner.
- E. Provide sufficient ventilation to comply with code and to obtain acceptable indoor quality, determined using either the Ventilation Rate Procedure or the Indoor Air Quality Procedure of ANSI/ASHRAE 62.1-2007.
- F. Locate outside air intakes away from any air contaminants in accordance with ANSI/ASHRAE Standard 62.1 and applicable codes.

### **2.04 OPERATION AND MAINTENANCE**

- A. Maintenance Access
  - 1. All equipment shall be located to maintain ease of access.
  - 2. Equipment utilities shall be routed to allow for access to equipment and replacement without removal of utilities.
  - 3. Equipment shall be located in area which will allow for complete removal and replacement without demolition to building infrastructure.
  - 4. Provide access doors for access to all enclosed equipment.

## **PART 3 EXECUTION**

### **3.01 INSPECTION:**

- A. All work and materials are subject to field observation at any and all times by the Owner's Representative.
- B. The Contractor shall notify the Owner's Representative a minimum of two days prior to testing any piping system which must be witnessed and accepted before it is covered up or enclosed.
- C. Cover or otherwise suitably protect equipment and materials stored on the job site.

### **3.02 CLEANING**

- A. General: Clean mechanical equipment, fixtures, piping of stampings and markings (except those required by codes), iron cuttings, and other refuse.
- B. Painted Surfaces: Clean scratched or marred painted surfaces of rust or other foreign matter and paint with matching color industrial enamel, except as otherwise noted.
- C. Before operating any equipment or systems, make thorough check to determine that systems have been flushed and cleaned as required and equipment has been properly installed, lubricated and serviced. Check factory instructions to see that installations have been made accordingly and that recommended lubricants have been used.
- D. Use particular care in lubricating bearings to avoid damage by over-lubrication and blowing out seals. Check equipment for damage that may have occurred during shipment, after delivery or during installation. Repair damaged equipment as approved or replace with new equipment.

### **3.03 LAYOUT AND COORDINATION**

- A. Site Examination: Before starting work, carefully examine site and all contract Drawings so as to become thoroughly familiar with conditions governing work on this project. Verify all indicated elevations, building measurements, roughing-in dimensions and equipment locations before proceeding with any of the work.
- B. The existence of any wires, conduits, pipes, ducts or other service facilities is not necessarily shown. It will be the duty of the Contractor to visit the site and make exact determination of the existence of any such facilities prior to submitting a bid. It is understood that the Contractor will be responsible for making the exact determination of the location and condition of these facilities.
- C. The exact location and elevation of all public and private utilities must be determined by the Contractor. It shall be the duty of the Contractor to ascertain whether any additional facilities other than those shown may be present.
- D. Sleeves, Insets, Cast-in-Place Work: provide sleeves, inserts, anchoring devices, cast-in-place work, etc. which must be set in concrete sequenced at the proper time for the project schedule.
- E. Coordination:
  - 1. Where the work must be sequenced and positioned with precision in order to fit into the available space, prepare accurate scale shop drawings showing the actual physical dimensions required for the installation and submit prior to purchase-fabrication-installation of any of the elements involved in the coordination.
  - 2. Cooperate with other trades in furnishing material and information for sleeves, bucks, chases, mountings, backing, foundations and wiring required for installation of mechanical items.

3. Coordinate all work with other trades and determine in advance where interfacing of the mechanical work and other work are required to be connected together. Provide all materials and equipment to make those connections. Submit shop drawings showing required connections where special conditions exist.
- F. Discrepancies: Report immediately any error, conflict or discrepancy in Plans, Specifications and/or existing conditions. Do not proceed with any questionable items of work until clarification of same has been made. Should rearrangement or re-routing of ducts or piping be necessary, provide for approval the simplest layout possible for that particular portion of the work.

#### **3.04 TEMPORARY FACILITIES AND CONTROLS**

- A. Comply with Section 400 requirements.
- B. Permanent mechanical systems' equipment utilized for temporary facilities shall be started with all controls and safeties installed and operational.
- C. Owner's warranties shall not be abridged by Contractor's use of the permanent systems' equipment prior to final acceptance. Warranty period shall begin at final completion.

#### **3.05 CLOSEOUT**

- A. General: Refer to the Section 400 for general closeout requirements. Calibrate all equipment requiring same.
- B. Record Drawings: Submit record set of drawings required in Section 400 and in this Section.
- C. Closeout Equipment/Systems Operations: Sequence operations properly so that work of project will not be damaged or endangered. Coordinate with seasonal requirements. Operate each item of equipment and each system in a test run of appropriate duration with the Owner's operating personnel present, to demonstrate sustained, satisfactory performance. Adjust and correct operations as required for proper performance. Clean and lubricate each system, and replace dirty strainers, excessively worn parts and similar expendable items of the work.
- D. Operation and Instruction: Provide up to eight (4) hours of on-site training to Owner's personnel on all mechanical systems and equipment. Training shall include maintenance, lubrication, troubleshooting and repair. Contractor shall provide necessary written manuals and training aides explaining operational diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety and similar features of the installed system. Three (3) copies of written manuals shall be left with Owner at end of training.

**END OF SECTION**

**SECTION 26 0000**  
**ELECTRICAL CONDITIONS**

**PART 1 GENERAL**

**1.01 GENERAL REQUIREMENTS:** All work covered under these Conditions is to be “design/build” by contractor utilizing specific equipment and materials as may be specified elsewhere in project Drawings or Specifications. Section 400 requirements apply for the work specified in this Section.

**1.02 SCOPE OF WORK:** The work covered by this Specification shall include designing, drawing, and furnishing all labor, materials, equipment and services to construct and install the complete electrical and lighting systems as required by the applicable code and by the Owner and as specified herein. Contractor is responsible for obtaining any and all permits required for work covered by this Specification. In addition to any other submittals as may be required in this Section and Related Sections, Contractor shall submit an electrical plan to Engineer for review. Verify all conditions on the job site and lay out work accordingly.

**1.03 RELATED WORK:**

- A. The General Conditions apply to this Division, including but not limited to:
  - 1. Drawings and Specifications.
  - 2. Contract Modifications, addendums and change orders.
- B. Related work provided in Divisions 02 through 10.
- C. Related Work provided in Division 22 and 23.

**1.04 QUALITY ASSURANCE**

- A. Regulatory Requirements:
  - 1. All work, installations, materials and equipment shall comply with the provision of the following codes, referenced standards, and regulations, except where more stringent requirements are shown or specified:
    - a. Oregon Plumbing Specialty Code.
    - b. Oregon Mechanical Specialty Code.
    - c. Oregon Structural Specialty Code.
    - d. Oregon Electrical Specialty Code.
    - e. Oregon Fire Code
    - f. All City, County, State and Federal applicable laws and regulations.
    - g. Regulations and standards set forth by ASME, ASHRAE, SMACNA, AGA and ARI.
  - 2. Should there be any direct conflict between Codes and the Drawings and Specifications, the Codes’ rules and regulations shall govern.
  - 3. Where two or more codes or regulations apply, the more stringent of the two shall be exercised.
  - 4. Should the Documents indicate a condition, which will conflict with the Codes, the Contractor shall inform the Owner’s Representative and refrain from installing that portion until resolved. Any work installed in violation of the Codes will be removed and correctly installed as part of the Contract work.
  - 5. If the Drawings and Specifications indicate a higher quality than code, the Drawings and Specifications shall govern.
  - 6. Electrical products shall bear the U.L. label.
- B. The entire electrical system shall operate correctly at full capacity without objectionable noise, vibration or decrease of efficiency.

- C. Materials and Equipment:
  - 1. Equipment furnished shall meet all requirements of the Drawings and Specifications and be suitable for the installation. Equipment not meeting all requirements will not be acceptable.
  - 2. Where two or more units of the same class of equipment are furnished, use products of the same manufacturer.
  - 3. Furnish all materials and equipment, new and of size, type and quality herein specified.
- D. Workmanship:
  - 1. Follow manufacturers' instructions. If they are in conflict with the Drawings and Specifications, obtain clarification from the Engineer prior to beginning the work.
- E. Cutting and Patching:
  - 1. Provide for cutting, patching and repairing for the installation of the work specified, including masonry work, concrete work, carpentry work and painting. Work shall be performed by skilled craftsmen of the respective trade.

#### **1.05 PROJECT CONDITIONS:**

- A. The locations of any utilities, wires, conduits, pipes, ducts, or other service facilities which may be shown on the Drawings are shown in a general way only. Ascertain whether any additional facilities other than those shown on the plans may be present and determine the exact location and elevations of all utilities prior to commencing installation.
- B. Prior to bid, contact the local utility companies to verify requirements. Provide all material and labor by utilities.
- C. The Contractor, before submitting a Bid on the work, must visit the site to become familiar with all visible existing conditions. As a result of having visited the premises, the Contractor shall be responsible for the installation of the work as it relates to such visible existing conditions. The submission of the bid will be considered an acknowledgement of the part of the Bidder of visitation to the site.
- D. The Contractor is responsible to apply for and obtain all necessary permits, fees and inspections required by any public authority having jurisdiction. Refer to General Conditions for additional information.
- E. Coordinate exact requirements governed by actual job conditions. Check all information and report all discrepancies before fabrication work. Report changes in the time to avoid unnecessary work. Make changes as directed by Owner's Representative.

#### **1.06 SUBSTITUTION AND PRODUCT OPTIONS:**

- A. See Section 400.
- B. The use of manufacturer's names, models and numbers in the Drawings and Specifications is intended to establish style, quality, appearance and usefulness. The model numbers listed are the last available to the designer, if no longer current, substitute equipment equal to or better than that represented by the model number listed. Items noted "or equivalent" will require prior acceptance.
- C. Submit for the Owner's Representative's review, manufacturer's detailed specifications and data sheets for all proposed substitutions. Submittals shall consist of a single sheet, or specific data need for consideration of approval. All pertinent data listed in the Specifications and on the Drawings shall be furnished, including all special features. See that all submittals are in proper order, and that all equipment will fit the space provided.



- D. All requests for approval of substitutions for materials other than those specified must be submitted in accordance with Instruction to Bidder.
- E. All changes required due to product substitutions are the responsibility of the Contractor.

**1.07 PROJECT RECORD DRAWINGS:**

- A. Obtain any available drawings from Owner.
- B. Keep Drawings clean, undamaged and up to date.
- C. Record and accurately indicate the following:
  - 1. Depths, sizes and locations of all buried and concealed wires and conduits.
  - 2. Locations of all equipment.
  - 3. Changes, additions and revisions due to contract modifications.
- D. Drawings to be available for Engineer review.
- E. Submit as a part of Project Closeout Documents

**1.08 CONTRACT MODIFICATIONS:**

- A. In addition to the requirements of the General Conditions, all supplemental cost proposals for this Division of work shall be accompanied by a complete itemized breakdown of labor and materials for each item. No exceptions will be made. Contract's estimating sheets for supplemental cost proposals shall be made available upon request. Labor must be separated and allocated to each item of work. Changes or additions subject to additional compensation made without written authorization based on agreed price shall be at Contractor's own risk and expense.

**1.09 STORAGE AND HANDLING**

- A. Delivery: Deliver to project site with manufacturer's labels intact and legible.
- B. Handling: Avoid damage.
- C. Storage: Store material inside, protected from weather, dirt and construction dust. Where necessary to store outside, elevate well above grade and enclose with durable, waterproof wrapping.

**1.10 WARRANTY:**

- A. Provide a written guaranty covering the work of this Division for a period of one calendar year from the date of acceptance of the entire project as required by the General Conditions.
- B. Provide manufacturer's written warranties for material and equipment furnished under this Division insuring parts and labor for a period of one year from the date of acceptance of the entire project.
- C. Correct warranty items promptly upon notification.

**1.11 OPERATIONS AND MAINTENANCE DATA:**

- A. Prior to final inspection, provide three (3) copies of manufacturer's maintenance manuals for each piece of equipment or items requiring service. Manual shall include manufacturer's operation and maintenance instruction manuals and parts list for each piece of equipment or item requiring servicing. Include in the manual manufacturer's service data, wiring diagrams and parts lists for all major items of equipment, valve charts, balancing data and any additional equipment added by contract modification. Comply with Conditions of Section 400 where applicable.

- B. Submit bound in 8-1/2 x 11 inch text pages, three ring binders with durable plastic covers.
- C. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide the binder contents with permanent page dividers, logically organized with tab titling clearly printed under reinforced laminated plastic table.

**1.13 SUBMITTALS:**

- A. Design Drawings: Indicate the general layout of the equipment and wiring, suitable for submission for a plan review by the authority having jurisdiction.
- B. Product Data:
  - 1. Submit for review manufacturer's detailed shop drawings, specifications and stat sheets for all equipment to be furnished, as well as any wiring diagram showing field installed wiring and devices. Arrangement of electrical fixtures has been based on items of specific manufacturer intended as diagrammatic only.
  - 2. Indicate construction, capacities, accessories, etc. Manufacturer's abbreviations or codes are not acceptable.
  - 3. List the name of the motor manufacturer for each piece of equipment.
- C. Submission Requirements:
  - 1. Shop Drawings and Product Data:
    - a. Refer to Section 400
  - 2. Sample: Submit any samples required at the same time that shop drawings and product data are submitted.
- D. It shall be the Contractor's responsibility to:
  - 1. See that all submittals are in proper order.
  - 2. Ensure that all equipment will fit in the space provided.
  - 3. Assure that all deviation from Drawings and Specification are specifically noted and called to the attention of the Engineer/Contracting Officer in the submittals. Failure to comply will void approval automatically.
  - 4. Deviation, discrepancies, and conflicts between the submittals and the contract documents discovered prior to or after the review process shall not relieve the Contractor of this responsibility to comply with the contract documents.

**1.14 FEES, PERMITS AND INSPECTIONS:** The Contractor is responsible to apply for and obtain all necessary permits, fees and inspections required by any public authority having jurisdiction. Refer to General Conditions for additional information.

**1.16 DEFINITIONS**

- A. "Furnish: Means to supply and deliver to the project site, ready for unloading, unpacking, assembly, installation and similar operations.
- B. "Install": Describes operations at project site including actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.
- C. "Provide": Means to furnish and Install, complete and ready for intended use.

**PART 2 PRODUCTS**

**2.01 MATERIAL**

- A. All materials and products used for construction shall be new, of the best grade, and latest

products as listed in printed catalog data. All articles of a kind shall be the standard product of a single manufacturer. Trade names and manufacturers names denote a character and quality of equipment desired and shall not be construed as limiting competition.

- B. Asbestos: Do not use products made of or containing asbestos.

## **2.02 QUALITY ASSURANCE**

- A. Refer to Section 400 Material and Equipment for information regarding available alternatives to materials and equipment specified herein. Product listings are for informational purposes only and establish a general standard of quality.
- B. Provide products which are compatible with other portions of the work and provide products with the proper and correct power characteristics and similar adaptations for the project.

## **2.03 BASIC FUNCTION**

- A. Provide electrical system capable of supplying power needs for building's mechanical and plumbing systems.
- B. Provide means of artificial lighting in each room as directed by Owner and in accordance with all applicable codes, standards, and regulations.

## **2.04 OPERATION AND MAINTENANCE**

- A. Maintenance Access
  - 1. All equipment shall be located to maintain ease of access.
  - 2. Equipment utilities shall be routed to allow for access to equipment and replacement without removal of utilities.
  - 3. Equipment shall be located in area which will allow for complete removal and replacement without demolition to building infrastructure.
  - 4. Provide access doors for access to all enclosed equipment.

## **PART 3 EXECUTION**

### **3.01 INSPECTION:**

- A. All work and materials are subject to field observation at any and all times by the Owner's Representative.
- B. The Contractor shall notify the Owner's Representative a minimum of two days prior to testing any system which must be witnessed and accepted before it is covered up or enclosed.
- C. Cover or otherwise suitably protect equipment and materials stored on the job site.

### **3.02 CLEANING**

- A. General: Clean electrical equipment, fixtures, and exposed elements of stampings and markings (except those required by codes), iron cuttings, and other refuse.
- B. Painted Surfaces: Clean scratched or marred painted surfaces of rust or other foreign matter and paint with matching color industrial enamel, except as otherwise noted.
- C. Before operating any equipment or systems, make thorough check to determine that systems have been flushed and cleaned as required and equipment has been properly installed, lubricated and serviced. Check factory instructions to see that installations have been made accordingly and that recommended lubricants have been used.

- D. Use particular care in lubricating bearings to avoid damage by over-lubrication and blowing out seals. Check equipment for damage that may have occurred during shipment, after delivery or during installation. Repair damaged equipment as approved or replace with new equipment.

### **3.03 LAYOUT AND COORDINATION**

- A. Site Examination: Before starting work, carefully examine site and all contract Drawings so as to become thoroughly familiar with conditions governing work on this project. Verify all indicated elevations, building measurements, roughing-in dimensions and equipment locations before proceeding with any of the work.
- B. The existence of any wires, conduits, pipes, ducts or other service facilities is not necessarily shown. It will be the duty of the Contractor to visit the site and make exact determination of the existence of any such facilities prior to submitting a bid. It is understood that the Contractor will be responsible for making the exact determination of the location and condition of these facilities.
- C. The exact location and elevation of all public and private utilities must be determined by the Contractor. It shall be the duty of the Contractor to ascertain whether any additional facilities other than those shown may be present.
- D. Sleeves, Insets, Cast-in-Place Work: provide sleeves, inserts, anchoring devices, cast-in-place work, etc. which must be set in concrete sequenced at the proper time for the project schedule.
- E. Coordination:
  - 1. Where the work must be sequenced and positioned with precision in order to fit into the available space, prepare accurate scale shop drawings showing the actual physical dimensions required for the installation and submit prior to purchase-fabrication-installation of any of the elements involved in the coordination.
  - 2. Cooperate with other trades in furnishing material and information for sleeves, bucks, chases, mountings, backing, foundations and wiring required for installation of electrical items.
  - 3. Coordinate all work with other trades and determine in advance where interfacing of the electrical work and other work are required to be connected together. Provide all materials and equipment to make those connections. Submit shop drawings showing required connections where special conditions exist.
- F. Discrepancies: Report immediately any error, conflict or discrepancy in Plans, Specifications and/or existing conditions. Do not proceed with any questionable items of work until clarification of same has been made. Should rearrangement or re-routing of ducts or piping be necessary, provide for approval the simplest layout possible for that particular portion of the work.

### **3.04 TEMPORARY FACILITIES AND CONTROLS**

- A. Comply with Section 400 requirements.
- B. Permanent electrical systems' equipment utilized for temporary facilities shall be started with all controls and safeties installed and operational. Start-up shall be done by a factory approved mechanic only.
- C. Owner's warranties shall not be abridged by Contractor's use of the permanent systems' equipment prior to final acceptance. Warranty period shall begin at final completion.
- D. Maintain electric service to areas which are to remain in service during construction.

### **3.05 CLOSEOUT**

- A. General: Refer to the Section 400 sections for general closeout requirements. Calibrate all equipment requiring same.
- B. Record Drawings: Submit record set of drawings required in Section 400 and as previously specified in this Section.
- C. Closeout Equipment/Systems Operations: Sequence operations properly so that work of project will not be damaged or endangered. Coordinate with seasonal requirements. Operate each item of equipment and each system in a test run of appropriate duration with the Owner's operating personnel present, to demonstrate sustained, satisfactory performance. Adjust and correct operations as required for proper performance. Clean and lubricate each system, and replace dirty strainers, excessively worn parts and similar expendable items of the work.

**END OF SECTION**

## **SECTION 31 2200**

### **GRADING**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Removal of topsoil and unsuitable fill.
- B. Rough grading the site for building pads.
- C. Finish grading.

##### **1.02 RELATED REQUIREMENTS**

- A. Section 31 2316 - Excavation.
- B. Section 31 2323 - Fill: Filling and compaction.
- C. Section 31 2316.13 - Trenching: Trenching and backfilling for utilities.

##### **1.03 SUBMITTALS**

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

#### **PART 2 PRODUCTS**

##### **2.01 MATERIALS**

- A. Topsoil: See Section 31 2323.
- B. Other Fill Materials: See Section 31 2323.

#### **PART 3 EXECUTION**

##### **3.01 PREPARATION**

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
- C. Locate, identify, and protect from damage above- and below-grade utilities to remain.
- D. Notify utility company to remove and relocate utilities.
- E. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.

##### **3.02 ROUGH GRADING**

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- C. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- D. See Section 31 2323 for filling procedures.
- E. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

### **3.03 SOIL REMOVAL**

- A. Stockpile topsoil to be re-used on site; remove remainder from site.
- B. Stockpile subsoil to be re-used on site; remove remainder from site.
- C. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet; protect from erosion.

### **3.04 FINISH GRADING**

- A. Before Finish Grading:
  - 1. Verify building and trench backfilling have been inspected.
  - 2. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, and branches.
- C. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 3 inches.
- D. Place topsoil where required to level finish grade.
- E. Remove roots, weeds, rocks, and foreign material while spreading.
- F. Near plants spread topsoil manually to prevent damage.
- G. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- H. Lightly compact placed topsoil.

### **3.05 REPAIR AND RESTORATION**

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Agency Project Manager as to remedy.
- C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

### **3.06 CLEANING**

- A. Remove unused stockpiled topsoil and subsoil. Grade stockpile area to prevent standing water.
- B. Leave site clean and raked, ready to receive landscaping.

**END OF SECTION**

## **SECTION 31 2316**

### **EXCAVATION**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Excavating for footings, slabs-on-grade, and utilities within the building.

##### **1.02 RELATED REQUIREMENTS**

- A. Sections 400 - 600.
- B. Section 31 2200 - Grading: Grading.
- C. Section 31 2323 - Fill: Fill materials, filling, and compacting.
- D. Section 31 2316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

##### **1.03 PROJECT CONDITIONS**

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.
- B. Contractor to perform all excavation required for the Work within a time period of 10 consecutive business days from commencement of excavation operations.

#### **PART 2 PRODUCTS - NOT USED**

#### **PART 3 EXECUTION**

##### **3.01 PREPARATION**

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 2200 for additional requirements.

##### **3.02 EXCAVATING**

- A. Excavate to accommodate new structures and construction operations.
- B. Notify Owner's Project Manager of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- D. Cut utility trenches wide enough to allow inspection of installed utilities.
- E. Hand trim excavations. Remove loose matter.
- F. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume. See Section 31 2316.13 for removal of larger material.
- G. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.
- H. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- I. Remove excavated material that is unsuitable for re-use from site.
- J. Stockpile excavated material to be re-used in area designated on site in accordance with Section 31 2200.



- K. Remove excess excavated material from site.

### **3.03 FIELD QUALITY CONTROL**

- A. Refer to Section 400.
- B. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations.

### **3.04 PROTECTION**

- A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

**END OF SECTION**

## SECTION 31 2316.13

### TRENCHING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Backfilling and compacting for utilities outside the building.

##### 1.02 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading: Site grading.
- B. Section 31 2316 - Excavation: Building and foundation excavating.
- C. Section 31 2323 - Fill: Backfilling at building and foundations.

##### 1.03 REFERENCES

- A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; current adopted edition.
- B. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; current adopted edition.
- C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)); current adopted edition.
- D. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; current adopted edition.
- E. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN m/m<sup>3</sup>)); current adopted edition.
- F. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; current adopted edition.
- G. ASTM D 2922 - Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth); current adopted edition.
- H. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); current adopted edition.

#### PART 2 PRODUCTS

##### 2.01 FILL MATERIALS

- A. Granular Fill - Gravel: Pit run washed stone; free of shale, clay, friable material and debris.
  - 1. Graded in accordance with ASTM C136, within the following limits:
    - a. 3/4 inch sieve: 95 to 100 percent passing.
    - b. 5/8 inch sieve: 75 to 100 percent passing.
    - c. 3/8 inch sieve: 55 to 85 percent passing.
    - d. No. 4 sieve: 35 to 60 percent passing.
    - e. No. 16 sieve: 15 to 35 percent passing.
    - f. No. 40: 10 to 25 percent passing.
    - g. No. 200: 5 to 10 percent passing.

#### PART 3 EXECUTION

##### 3.01 TRENCHING

- A. Notify Owner's Project Manager of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Cut trenches wide enough to allow inspection of installed utilities.
- E. Hand trim excavations. Remove loose matter.
- F. Remove excavated material that is unsuitable for re-use from site.
- G. Remove excess excavated material from site.

### **3.02 PREPARATION FOR UTILITY PLACEMENT**

- A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

### **3.03 BACKFILLING**

- A. Backfill to contours and elevations indicated using unfrozen materials.
- B. Employ a placement method that does not disturb or damage other work.
- C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- F. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- G. Correct areas that are over-excavated.
  - 1. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.
- H. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under slabs-on-grade and similar construction: 95 percent of maximum dry density.
- I. Reshape and re-compact fills subjected to vehicular traffic.

### **3.04 BEDDING AND FILL AT SPECIFIC LOCATIONS**

- A. Use granular fill unless otherwise specified or indicated.

### **3.05 FIELD QUALITY CONTROL**

- A. Refer to Section 400.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, ASTM D2922, or ASTM D3017.
- C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T 180.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest.

E. Frequency of Tests: As determined by Owner's testing agency.

**END OF SECTION**

## SECTION 31 2323

### FILL

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Filling, backfilling, and compacting for construction of this facility.
- B. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

##### 1.02 RELATED REQUIREMENTS

- A. Section 31 2200 - Grading: Removal and handling of soil to be re-used.
- B. Section 31 2316 - Excavation: Removal and handling of soil to be re-used.
- C. Section 31 2316.13 – Trenching: Fill material for utility trenches.

##### 1.03 REFERENCE STANDARDS

- A. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2006.

##### 1.04 SUBMITTALS

- A. Refer to Section 400.
- B. Samples: 10 lb sample of each type of fill; submit in air-tight containers to testing laboratory.

##### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.

#### PART 2 PRODUCTS

##### 2.01 FILL MATERIALS

- A. General Fill: Subsoil excavated on site, or imported borrow.
  - 1. Graded.
  - 2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
- B. Granular Fill - Gravel: Pit run washed stone; free of shale, clay, friable material and debris.
  - 1. Graded in accordance with ASTM C136, within the following limits:
    - a. 3/4 inch sieve: 95 to 100 percent passing.
    - b. 5/8 inch sieve: 75 to 100 percent passing.
    - c. 3/8 inch sieve: 55 to 85 percent passing.
    - d. No. 4 sieve: 35 to 60 percent passing.
    - e. No. 16 sieve: 15 to 35 percent passing.
    - f. No. 40: 10 to 25 percent passing.
    - g. No. 200: 5 to 10 percent passing.
- C. Topsoil: See Section 31 2200.

##### 2.02 ACCESSORIES

- A. Vapor Retarder: 10 mil thick, polyethylene.

## **2.03 SOURCE QUALITY CONTROL**

- A. Refer to Section 400.
- B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31 2200 for additional requirements.

### **3.02 PREPARATION**

- A. Scarify subgrade surface to a depth of up to 24 inches to identify soft spots.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with granular fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

### **3.03 FILLING**

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- G. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- H. Correct areas that are over-excavated.
  - 1. Load-bearing foundation surfaces: Fill with concrete.
  - 2. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.
- I. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under slabs-on-grade and similar construction: 95 percent of maximum dry density.
  - 2. At other locations: 95 percent of maximum dry density.
- J. Reshape and re-compact fills subjected to vehicular traffic.

### **3.04 FILL AT SPECIFIC LOCATIONS**

- A. Under Slabs-On-Grade and Footings:
  - 1. Use granular fill.
  - 2. Compacted depth: As indicated, but not less than 12 inches nor more than 24 inches.
  - 3. Compact to 97 percent of maximum dry density.
- B. Under Landscape Areas:

1. Use general fill.
2. Fill up to subgrade elevation.
3. Compact each lift to 90 percent of maximum dry density.
4. Do not backfill against unsupported foundation walls.

### **3.05 FIELD QUALITY CONTROL**

- A. Refer to Section 400.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- C. Frequency of Tests: As determined by Owner's testing agency.

### **3.06 CLEANING**

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

**END OF SECTION**

# **Section 900**

## **CONSTRUCTION DRAWINGS**

**DRAWINGS DATED January 22, 2019**

G001 COVER SHEET  
A100 DEMOLITION PLAN  
A101 FLOOR PLAN  
A102 REFLECTED CEILING PLAN  
A103 ROOF PLAN  
A104 EGRESS PLAN  
A200 DEMOLITION ELEVATIONS  
A201 PROPOSED ELEVATION  
A301 SECTIONS  
A401 RESTROOM INTERIOR ELEVATIONS & NOTES  
A501 ARCHITECTURAL DETAILS  
A601 DOOR & WINDOW SCHEDULES  
A602 HARDWARE SCHEDULE  
S001 STRUCTURAL NOTES  
S002 STRUCTURAL NOTES  
S101 FOUNDATION AND FRAMING PLAN  
S501 STRUCTURAL FRAMING DETAILS