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PROJECT #24.048.1

PROJECT MANUAL

FOR

**VISITOR CENTER
HUB REST AREA &
T-MOBILE PLAZA**

FOR

CITY OF NORTH BEND



EXPIRES: 05/1/2026

DECEMBER 2025

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SECTION 00-0101
PROJECT TITLE PAGE

PROJECT MANUAL
FOR

**CITY OF NORTH BEND VISITOR CENTER HUB REST
AREA & T-MOBILE PLAZA**

FOR

CITY OF NORTH BEND

**NORTH BEND VISITOR'S INFORMATION CENTER
745 CALIFORNIA AVENUE
NORTH BEND, OREGON 97459**

PREPARED BY:

**HGE ARCHITECTS, INC.
333 S 4TH STREET
COOS BAY, OR 97420
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**SECTION 00-0110
TABLE OF CONTENTS**

PROCUREMENT AND CONTRACTING REQUIREMENTS

1.01 DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

- A. 00-0101 - Project Title Page
- B. 00-0110 - Table of Contents
- C. 00-1113 - Advertisement for Bids
- D. 00-2113 - Instructions to Bidders
- E. AIA Document A701-2018: Instructions to Bidders
- F. 00-2210 - Supplemental Instructions to Bidders
- G. 00-4100 - Bid Form
- H. 00-4110 - First Tier Subcontractor Disclosure Form
- I. Substitution Request Form - During Procurement
- J. 00-5200 - Agreement Form
- K. AIA Document A101 Standard Form of Agreement Between Owner and Contractor (DRA
- L. 00-7200 - General Conditions
- M. AIA Document A201-2017: General Conditions of the Contract for Construction
- N. 00-7300 - Supplementary Conditions
- O. 00-7346 - Prevailing Wage Rates

SPECIFICATIONS

2.01 DIVISION 01 -- GENERAL REQUIREMENTS

- A. 01-1000 - Summary
- B. 01-3000 - Administrative Requirements
- C. 01-4000 - Quality Requirements
- D. 01-5000 - Temporary Facilities and Controls
- E. 01-5500 - Vehicular Access and Parking
- F. 01-5713 - Temporary Erosion and Sediment Control
- G. 01-5813 - Temporary Project Signage
- H. 01-6000 - Product Requirements
- I. 01-7000 - Execution and Closeout Requirements
- J. 01-7800 - Closeout Submittals
- K. AIA Document G-706 Contractor's Affidavit of Payment
- L. AIA Document G706A - Contractor's Affidavit of Release of Liens
- M. AIA Document G707 - Consent of Surety to Final Payment
- N. 01-7900 - Demonstration and Training

2.02 DIVISION 02 -- EXISTING CONDITIONS

- A. 02-4100 - Demolition

2.03 DIVISION 03 -- CONCRETE

- A. 03-1000 - Concrete Forming and Accessories
- B. 03-2000 - Concrete Reinforcing
- C. 03-3000 - Cast-in-Place Concrete

- D. 03-3523 - Exposed Aggregate Concrete Finishing

2.04 DIVISION 05 -- METALS

- A. 05-7300 - Decorative Metal Railings

2.05 DIVISION 22 -- PLUMBING

- A. 22-0100 - Plumbing Requirements

2.06 DIVISION 26 -- ELECTRICAL

- A. 26-0100 - Electrical

2.07 DIVISION 31 -- EARTHWORK

- A. 31-2200 - Grading
- B. 31-2316 - Excavation
- C. 31-2316.13 - Trenching
- D. 31-2319 - Dewatering
- E. 31-2323 - Fill
- F. 31-4100 - Shoring

2.08 DIVISION 32 -- EXTERIOR IMPROVEMENTS

- A. 32-1120 - Subbase and Aggregate Base Courses
- B. 32-1313 - Concrete Paving
- C. 32-1710 - Parking Bumpers and Manufactured Traffic-Calming Devices
- D. 32-1723 - Pavement Markings
- E. 32-3300 - Site Furnishings
- F. 32-3313 - Site Bicycle Racks
- G. 32-8423 - Landscape Irrigation
- H. 32-9119 - Landscape Grading
- I. 32-9200 - Seeding
- J. 32-9300 - Plants

2.09 DIVISION 33 -- UTILITIES

- A. 33-0500 - Site Utilities

**SECTION 00-1113
ADVERTISEMENT FOR BID**

Notice is hereby given that sealed bids for City of North Bend Visitor Center HUB Rest Area & T-Mobile Plaza will be received by City of North Bend until the bid closing time of 2:00 P.M. Pacific Time, Tuesday, January 6, 2026.

Bids shall be mailed or hand delivered to City of North Bend Public Works Office, Attn: David Milliron, 835 California Ave., North Bend, OR 97459; subject: BID for City of North Bend Visitor Center HUB Rest Area & T-Mobile Plaza.

The bid opening shall be conducted immediately following the bid closing time, at which time the bids will be publicly opened and read aloud.

The project consists of the construction of site improvements (i.e. concrete plaza, seat walls, stage, ADA parking, sloping walk and landscape amenities). This is Phase 1 of the overall North Bend Visitor's Information Center Site Improvement Plan.

Construction Documents for this work may be examined at the Office of the Landscape Architect, HGE Architects, Inc. 333 South 4th Street, Coos Bay, Oregon, phone: 541-269-1166, email: general@hge1.com, and at the following locations: the Public Works office of City of North Bend, various Plan Centers, and on the HGE website at <http://www.hge1.com/bidding-area/>. General Contractors are encouraged to contact HGE by phone or email and register their interest in submitting a bid and to be included on the plan holders' list.

One set of large format drawings and the project manual may be obtained by prime bidders from HGE Architects, upon refundable deposit of \$50 .

A Mandatory pre-bid meeting will be held at the site on December 18 at 10 A.M. Contractors shall meet at the project site at 745 California Avenue, North Bend, Oregon. Subcontractors are encouraged to attend. General contractors are required to attend to qualify to submit a bid.

No bid will be received or considered by the Owner unless the bid contains a statement that Bidder will comply with the provisions of ORS 279C.870 relating to Prevailing Wages.

No bids will be considered unless fully completed in the manner provided in the Instructions to Bidders upon the official bid form provided by the Architect, within the Project Manual, and accompanied by an unconditional certified check or a bid bond executed in favor of City of North Bend in the amount not less than ten percent (10%) of the total amount of the bid per ORS 279C.385, to be forfeited as fixed and liquidated damages should the bidder fail or neglect to enter into a contract and provide suitable bond for the faithful performance of the work in the event the contract is awarded.

Each bid will contain a statement as to whether or not the bidder is a resident bidder as defined in ORS 279A.120. No Bid will be considered unless the bidder is registered with the Construction Contractors Board as required by ORS 701.035 to 701.055.

The Owner reserves the right to reject any and all bids, and to waive any technicalities or informalities in connection therewith. No bidder may withdraw their bid after the hour set for the opening thereof until the lapse of thirty (30) days from the bid opening.

David Milliron , City Administrator

City of North Bend

Published:

DJC Oregon, Portland, OR

END OF SECTION

**SECTION 00-2113
INSTRUCTIONS TO BIDDERS**

SUMMARY

1.01 SEE AIA A701, (2018 EDITION), INSTRUCTIONS TO BIDDERS FOLLOWING THIS DOCUMENT.

1.02 RELATED DOCUMENTS

- A. Document 00-1113 - Advertisement for Bids.
- B. AIA Document A701 - 2018 Instructions to Bidders
- C. Document 00-2210 - Supplementary Instructions to Bidders
- D. Document 00-4100 - Bid Form.

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AIA® Document A701® – 2018

Instructions to Bidders

for the following Project:

(Name, location, and detailed description)

24.048 City of North Bend - Visitor Center HUB Rest Area & T-Mobile Plaza
1380 Sherman Ave
North Bend, OR 97459

THE OWNER:

(Name, legal status, address, and other information)

City of North Bend
PO BOX B 835 California
North Bend, OR 97459
541.756.8500

THE ARCHITECT:

(Name, legal status, address, and other information)

HGE Architects, Inc.
333 South 4th Street
Coos Bay, OR 97420
5412691166

TABLE OF ARTICLES

- 1 DEFINITIONS
- 2 BIDDER'S REPRESENTATIONS
- 3 BIDDING DOCUMENTS
- 4 BIDDING PROCEDURES
- 5 CONSIDERATION OF BIDS
- 6 POST-BID INFORMATION
- 7 PERFORMANCE BOND AND PAYMENT BOND
- 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

ADDITIONS AND DELETIONS:

The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

See Section 00-2113 Advertisement for Bids

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

See Section 00-2113 Advertisement for Bids

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

Addenda will be emailed to all individuals registered on the Plan Holders List.

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:
(Insert the form and amount of bid security.)

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning 3 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

See Section 00-2113 Advertisement for Bids

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:

(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Owner's Financial Capability

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- 1 a designation of the Work to be performed with the Bidder's own forces;
- 2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- 3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in

accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.4 Building Information Modeling Exhibit, if completed:

.5 Drawings
See Drawings dated December 2025 for complete Sheet Index.

Number	Title	Date
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.6 Specifications
See Project Manual Section 00-0110 dated December 2025 for complete Table of Contents.

Section	Title	Date	Pages
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.7 Addenda:

Number	Date	Pages
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.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

☐ AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017.)

☐ The Sustainability Plan:

Title	Date	Pages
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☐ Supplementary and other Conditions of the Contract:



Document	Title	Date	Pages
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- | | | | |
|---|---|--|--|
| 9 | Other documents listed below:
<i>(List here any additional documents that are intended to form part of the Proposed Contract Documents.)</i> | | |
|---|---|--|--|

**SECTION 00-2210
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**

GENERAL

1.01 THE FOLLOWING SUPPLEMENTS SHALL MODIFY, CHANGE, DELETE FROM OR ADD TO THE AIA DOCUMENT A701-2018 INSTRUCTIONS TO BIDDERS. WHERE ANY ARTICLE OF THE INSTRUCTIONS TO BIDDERS IS MODIFIED OR ANY PARAGRAPH, SUBPARAGRAPH, OR CLAUSE THEREOF IS MODIFIED OR DELETED BY THESE SUPPLEMENTS, THE UNALTERED PROVISIONS OF THAT ARTICLE, PARAGRAPH, SUBPARAGRAPH, OR CLAUSE SHALL REMAIN IN EFFECT.

1.02 ARTICLE 1 DEFINITIONS, ADD THE FOLLOWING:

- A. The word Owner is City of North Bend.
- B. The word Architect is HGE ARCHITECTS, Inc.

1.03 ARTICLE 2 BIDDERS REPRESENTATIONS, ADD THE FOLLOWING:

- A. If a pre-bid walkthrough is held, contractors and sub-contractor attendees are encouraged to familiarize themselves with the bidding and contract documents prior to the walkthrough.

1.04 ARTICLE 3 BIDDING DOCUMENTS, ADD THE FOLLOWING:

- A. Bid documents may be obtained at the office of the Architect which is located at 333 South 4th Street, Coos Bay, OR 97420. Phone: 541-269-1166, Email: general@hge1.com, Website: www.hge1.com.
- B. One (1) set of Bid Documents can be obtained by prime bidders from HGE Architect, INC., upon refundable deposit of amount indicated on the advertisement for bids.
- C. Deposit will be refunded if Bid Documents are returned complete, undamaged, unmarked, and reusable no later than 7 days after bid opening date. Non-bidders' deposit will be refunded if documents are returned in good condition no later than bid opening date. Failure to comply will result in forfeiture of deposit.
- D. Bid Documents maybe viewed at the Architect's office, at the Public Works office of the City of North Bend, and various plan centers. PDF digital copies of these documents are also available to Bidders via HGE's website.
- E. General Contractors are encouraged to contact HGE's office by phone or email to register their interest in submitting a bid and to be included on the architect's plan holders lists. Addenda and other critical information will be forwarded to all persons on the architect's plan holders list.
- F. Upon receipt of Bid Documents , verify that documents are complete. Notify Architect should the document be incomplete.
- G. Immediately notify Architect upon finding discrepancies or omissions in the bid documents.
- H. Direct questions to Architect, telephone (541)269-1166, email general@hge1.com.
- I. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount. Addenda will be prepared and distributed by the Architect.
- J. Addenda will be sent to all plan holders on the Architect's plan holders list via email. A Bidder's failure to request to be included on the plan holders list or accurately submit a proper email address, or Architect not obtaining a proper email address, will not excuse the Bidder from obtaining any and all addenda.
 - 1. Verbal answers are not binding on any party.
 - 2. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. If clarification or change in the documents is required, the reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients.

1.05 ARTICLE 4 BIDDING PROCEDURE, ADD THE FOLLOWING:

- A. One copy of the Bid Form and other required bidding documents shall be submitted with all blank spaces in the form fully filled.
- B. PREPARATION OF FIRST-TIER SUBCONTRACTOR DISCLOSURE
 - 1. Per ORS 279C.370 the Bidder shall submit First-Tier Subcontractor Disclosure Form not later than 2 hours following the Bid Closing, or the bid will be rejected.
 - 2. To determine disclosure requirements, the Agency recommends that you disclose subcontract information for any subcontractor and supplier as follows:
 - a. Determine the lowest possible contract price. That price will be the base bid amount less all alternate deductive bid amounts (exclusive of any options that can only be exercised after contract award).
 - b. Provide the required disclosure information for any first-tier subcontractor whose potential contract services (i.e., subcontractor's base bid amount plus all alternate additive bid amounts, exclusive of any options that can only be exercised after contract award) are greater than or equal to: (i) 5% of that lowest contract price, but at least \$15,000, or (ii) \$350,000 regardless of the percentage. Total all possible work for each subcontractor in making this determination (e.g., if a subcontractor will provide \$15,000 worth of services on the base bid and \$40,000 on an additive alternate, then the potential amount of subcontractor's services is \$55,000. Assuming that \$55,000 exceeds 5% of the lowest contract price, provide the disclosure for both the \$15,000 services and the \$40,000 services).
 - c. Submission. A Bidder shall submit the disclosure form required by this rule within two (2) working hours of Bid Closing in the manner specified by the ITB.
 - d. Responsiveness. Compliance with the disclosure and submittal requirements of ORS 279C.370 and this rule is a matter of Responsiveness. Bids which are submitted by Bid Closing, but for which the separate disclosure submittal has not been made by the specified deadline, are not Responsive and shall not be considered for Contract award.
 - e. Substitution. Substitution of affected first-tier subcontractors shall be made only in accordance with ORS 279C.585. Agencies do not have a statutory role or duty to review, approve, or resolve disputes concerning such substitutions. However, Agencies are not precluded from making related inquiries or investigating complaints in order to enforce Contract provisions that require compliance generally with laws, rules and regulations.
 - f. Effective Date. This rule shall apply to Public Improvement Contract first advertised on or after August 1, 2003. The above instructions have been amended to include modifications approved by the 2005 legislature.
 - g. Article 4 Bidding Procedure Subparagraph 4.2.2, add the following:
- C. Bid security shall be required in the form of Bid Bond issued by a Bonding Company acceptable to the Owner, cashier's check, or certified check in an amount equal to 10% of the total bid, made payable to the Owner.
- D. Bidders shall make arrangements to visit the site prior to bidding. A bidders' conference will be held, as noted in the Advertisement for Bids.
- E. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients
- F. Oral statements made by the Owner or its representatives at Pro-bid site visits are not binding unless confirmed in written addendum. (OAR 137-049-0200(1)(a)(B)(iii))
- G. All Bidders will leave their bids open for a period of thirty (30) days after the date of bid opening. No bid may be withdrawn during such period of time. Owner may accept any Bid in accordance with the Instructions to Bidders within such thirty (30) day period.

- H. Bids signed and under seal, executed, and dated, will be received at the designated office before the stated bid closing time. Refer to the Advertisement for Bids for specific bidding information and requirements.
 - 1. Mailed, hand delivered, and emailed electronic bids shall be received prior to bid closing time.
- I. Bids submitted after the stated bid closing time shall be returned to the bidder unopened.
- J. Amendments to the submitted offer must be received in writing prior to bid closing and endorsed by the same party or parties who signed and sealed the offer.

1.06 ARTICLE 5 CONSIDERATION OF BIDS, ADD THE FOLLOWING:

- A. If the Contractor is to be awarded, Owner will provide written Notice of Intent to Award to all Bidders of the Owner's intent to award the Contract. Owner's award shall not be final until the later of the following:
 - 1. Five (5) days after the date of the Notice of Intent; or
 - 2. The Owner provides a written response to all timely-filed protests that denies the protest and affirms the award.
- B. Owner reserves the right to accept or reject any or all offers and to waive any technicalities or informalities in connection therewithin.
- C. Owner may reject any bid that does not comply with prescribed public contracting procedures and requirements, including the bidder's responsibility under ORS 279C.375(3)(b).
- D. No offer will be received or considered unless the offer states that the offeror agrees to be bound by and will comply with the provisions of 279C.838, 279C.840, or U.S.C 3141 to 3148. (OAR 137-049-0200(1)(a)(J))
- E. No offer will be considered unless the offeror is registered and in good standing with the Construction Contractors Board. (OAR 137-049-0200(1)(a)(K))
- F. Owner may reject for good cause all bids upon finding that it is in the public interest to do so.
- G. After acceptance by Owner, the Architect, on behalf of Owner, will issue to the successful bidder a written letter of Contract Award.
- H. Goods or services manufactured or produced in the State of Oregon to receive preference, all factors being equal.

1.07 ARTICLE 6 POST BID INFORMATION, AMEND TO READ:

- A. Bidders Qualifications
 - 1. Successful bidder must be registered with the Construction Contractor's Board as required by ORS 701.035 to 701.055.
 - 2. Successful bidder must demonstrate the bidder's responsibility under ORS 279C.375(3)(b).
 - 3. Bidder is not required to be licensed for asbestos abatement under ORS 468A.720.

1.08 ARTICLE 7 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND, ADD THE FOLLOWING:

- A. A Performance Bond and Labor and Material Payment Bond shall be required. Contractor shall provide separate Performance Bond and Labor and Material Payment Bond made payable to the Owner issued by a Corporation legally licensed to transact business in the State of Oregon. Corporation issuing such a bond must comply with applicable Oregon Statutes for public work and be satisfactory to the Owner. The bonds are to be in the amount of 100% of the contract sum to assure the Owner of full and prompt performance of the Contract.

1.09 ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR, ADD THE FOLLOWING:

- A. The Contractor shall within ten (10) days after notification in writing of the Owner's Notice to award a Contract, execute and return to the Owner the Form of Agreement, the Bonds and all applicable Certificates of Insurance.

END OF SECTION

**SECTION 00-4100
BID FORM**

THE PROJECT AND THE PARTIES

1.01 TO:

City of North Bend, Public Works
835 California Ave, North Bend, OR 97459

1.02 FOR: CITY OF NORTH BEND VISITOR CENTER HUB REST AREA & T-MOBILE PLAZA

1.03 DATE: _____ (BIDDER TO ENTER DATE)

1.04 SUBMITTED BY:

NAME OF FIRM (PLEASE PRINT): _____

1.05 GENERAL

- A. The Bidder declares that they have carefully examined the Contract Documents for the construction of the proposed improvements; that the Bidder has personally inspected the contemplated construction area, that the Bidder has satisfied themselves as to the quantities of materials, items of equipment, possible difficulties, and conditions of work involved.
- B. Bids must be fully completed in the manner provided in the Instructions to Bidders.
- C. By signing this Proposal, the Bidder certifies that the provisions required by ORS 279C.800 to 279C.870 relating to prevailing wage rates shall be included in this Contract, are understood by the Bidder, and will be complied with during the Work.
- D. The bidder further declares that they are registered with the Construction Contractor's Board as required by ORS 701.35 to 701.55, and possess such additional licenses and certifications as required by law for the performance of the work proposed herein.
- E. The subcontractor(s) performing work as described in ORS 701.005(2) will be registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 before the subcontractor(s) commence work under the Contract.
- F. Pursuant to ORS 279A.120, Bidder hereby certifies the Bidder _____ is / _____ is not (**check one**) a Resident Bidder as defined by ORS 279.029.
- G. Bidder certifies that the provisions required by ORS 279C.836, unless exempt under Sections (4), (7), (8), or (9), before starting work on this Contract, or any subcontract hereunder, Contractor and all subcontractors shall have on file with the Construction Contractor's Board a public works bond with corporate surety authorized to do business in the State of Oregon in the amount of \$30,000.
- H. The Bidder agrees that if this Proposal is accepted, the Bidder will, within ten (10) calendar days after receiving contract forms, execute the Agreement between Owner and Contractor as specified, and deliver to the Owner the Performance and Labor and Payment Bonds required herein.

1.06 BASIC BID:

- A. The undersigned bidder, in submitting his bid, authorizes the Owner to evaluate the bid and make a single award on the basis of the bid.
- B. After having examined all of the contract documents as prepared by HGE ARCHITECTS, Inc., we do hereby propose to furnish labor and materials to complete the work required by said documents for the following fixed sum (*fill in lump sum amount for each bid unit, in written words in space provided, and in numerals within parenthesis*):

BASIC BID:

_____ Dollars

and _____ Cents (\$ _____) complete.

Bidder further agrees to be bound by the entire Contract Documents, including:

- Notice to Contractors
- Issued Addenda
- Instructions to Bidders - AIA A701 and Supplemental Instructions
- Bid Form (this document)
- Subcontractor Disclosure Form
- General Conditions - AIA 201 and Supplementary Conditions
- Contract for Construction: Owner-Contractor Agreement - AIA 101
- Performance and Payment Bonds
- Technical Specifications
- Plans/Drawings
- Issued Change Orders and Architects Supplemental Instructions
- All Applicable State and Federal Laws

1.07 BID SECURITY

- A. Bid security in the form of a certified check of Bid Bond in the amount of 10% of the bid amount is enclosed per ORS 279C.385. The undersigned agrees that Bid Security will be left in escrow with the Owner and that the amount thereof is the measure of liquidated damages which Owner will sustain by failure of the undersigned to deliver and execute the Contract or provide Performance and Payment Bonds and may become the property of the Owner at Owner's option. If this bid is not accepted within thirty (30) days of the time set for the opening of bids or if the undersigned executes and timely delivers said contract and the Performance and Payment Bonds, the Bid Security will be returned.

1.08 COMPLETION DATE

- A. It is understood that time is of the essence in the execution of this Contract in order to avoid undue hardship upon the Owner. It is the desire of the Owner to issue a Notice to Proceed upon successful review of the lower qualified bidder and have the project completed within _____ calendar days after Notice to Proceed.
- B. The Undersigned agrees that he will have the work Substantially Complete within _____ calendar days after Notice to Proceed. (*Contractor to fill in the NUMBER OF CALENDAR DAYS they will require to perform the Work and this will be the agreed upon construction time period*).
- C. The Contractor agrees that said Work shall be prosecuted regularly, diligently, at such rate of progress as will insure Substantial Completion thereof within the time specified. It is expressly understood and agreed, by the Contractor and the Owner, that the time for the completion of the Work described herein is reasonable taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

1.09 OWNER RIGHTS

- A. The Owner reserves the right to reject any or all bids and to waive all informalities.

1.10 ADDENDA

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
1. Addendum # _____ Dated _____.
 2. Addendum # _____ Dated _____.
 3. Addendum # _____ Dated _____.

1.11 BID FORM SIGNATURE(S)

- A. Name of Firm (*please print*): _____
- B. Mailing Address: _____
- C. Physical Address (*if different*): _____
- D. Construction Contractor Board Registration Number: _____
- E. Telephone Number: _____
- F. Fax Number: _____
- G. Email Address: _____
- H. Signature (*if bid is by a partnership, one of the partners must sign*): _____
- _____
- I. Name and Official Capacity of Signatory (*please print*): _____
- _____
- J. If Corporation, Attest (*Secretary of Corporation*): _____
- _____
- K. SEAL (if Corporation): _____

END OF SECTION

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FIRST-TIER SUBCONTRACTOR DISCLOSURE



PROJECT NAME: _____

BID #: _____

BID CLOSING: Date: _____ Time: _____

This form must be submitted at the location specified in the Invitation to Bid on the advertised bid closing date and within two working hours after the advertised bid closing time.

List below the name of each subcontractor that will be furnishing labor or will be furnishing labor and materials and that is required to be disclosed, the category of work that the subcontractor will be performing and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed.
(ATTACH ADDITIONAL SHEETS IF NEEDED.)

NAME	DOLLAR VALUE	CATEGORY OF WORK
(1)	\$	
(2)	\$	
(3)	\$	
(4)	\$	
(5)	\$	
(6)	\$	
(7)	\$	
(8)	\$	
(9)	\$	

Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award.

Form submitted by (bidder name): _____

Contact name: _____ Phone no.: () _____

ORS 279C.370 First-tier subcontractor disclosure. (1)(a) Within two working hours after the date and time of the deadline when bids are due to a contracting agency for a public improvement contract, a bidder shall submit to the contracting agency a disclosure of the first-tier subcontractors that:

- (A) Will be furnishing labor or will be furnishing labor and materials in connection with the public improvement contract; and
- (B) Will have a contract value that is equal to or greater than five percent of the total project bid or \$15,000, whichever is greater, or \$350,000 regardless of the percentage of the total project bid.
 - (b) For each contract to which this subsection applies, the contracting agency shall designate a deadline for submission of bids that has a date on a Tuesday, Wednesday or Thursday and a time between 2 p.m. and 5 p.m., except that this paragraph does not apply to public contracts for maintenance or construction of highways, bridges or other transportation facilities.
 - (c) This subsection applies only to public improvement contracts ("**projects**") with a value, estimated by the contracting agency, of more than **\$100,000**.
 - (d) This subsection does not apply to public improvement contracts that have been exempted from competitive bidding requirements under ORS 279C.335 (2).
- (2) The disclosure of first-tier subcontractors under subsection (1) of this section must include the name of each subcontractor, the category of work that each subcontractor will perform and the dollar value of each subcontract. The information shall be disclosed in substantially the following [above] form:
- (3) A contracting agency shall accept the subcontractor disclosure. The contracting agency shall consider the bid of any contractor that does not submit a subcontractor disclosure to the contracting agency to be a non-responsive bid and may not award the contract to the contractor. A contracting agency is not required to determine the accuracy or the completeness of the subcontractor disclosure.
- (4) After the bids are opened, the subcontractor disclosures must be made available for public inspection.
- (5) A contractor may substitute a first-tier subcontractor under the provisions of ORS 279C.585.
- (6) A subcontractor may file a complaint under ORS 279C.590 based on the disclosure requirements of subsection (1) of this section.

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333 S. 4TH STREET
COOS BAY, OREGON 97420
P: 541.269.1166
www.hge1.com

SUBSTITUTION REQUEST

(During the Bidding Phase)

Project: _____ Substitution Request Number: _____

From: _____
To: _____ Date: _____

A/E Project Number: _____
Re: _____ Contract For: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No.: _____

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

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

The Undersigned certifies:

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

Submitted by: _____
Signed by: _____
Firm: _____
Address: _____

Telephone: _____

A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with AIA Form 701-2018 Instructions to Bidders, Paragraph 3.3 Substitutions.
- ☐ Substitution approved as noted - Make submittals in accordance with AIA Form 701-2018 Instructions to Bidders, Paragraph 3.3 Substitutions.
- ☐ Substitution rejected - Use specified materials.
- ☐ Substitution Request received too late - Use specified materials.

Signed by: _____

Date: _____

Supporting Data Attached:

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

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**SECTION 00-5200
AGREEMENT FORM**

PART 1 GENERAL

1.01 FORM OF AGREEMENT

1.02 THE DRAFT OF AIA 101-2017 - AGREEMENT TO BE EXECUTED IS ATTACHED FOLLOWING THIS PAGE.

1.03 RELATED REQUIREMENTS

- A. Section 00-7200 - General Conditions.
- B. Section 00-7300 - Supplementary Conditions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

BETWEEN the Owner:

(Name, legal status, address and other information)

City of North Bend
PO BOX B 835 California
North Bend, OR 97459
541.756.8500

and the Contractor:

(Name, legal status, address and other information)

for the following Project:

(Name, location and detailed description)

24.048 City of North Bend - Visitor Center HUB Rest Area & T-Mobile Plaza
1380 Sherman Ave
North Bend, OR 97459

The Architect:

(Name, legal status, address and other information)

HGE Architects, Inc.
333 South 4th Street
Coos Bay, OR 97420
5412691166

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

- ☐ The date of this Agreement.
- ☐ A date set forth in a notice to proceed issued by the Owner.
- ☐ Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

- ☐ Not later than () calendar days from the date of commencement of the Work.
- ☐ By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
------	-------

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
------	-------	---------------------------

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
------	-------

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than () days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™-2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

(Insert any other conditions for release of retainage upon Substantial Completion.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

%

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

- ☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- ☐ Litigation in a court of competent jurisdiction
- ☐ Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the

Owner's convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:

(Name, address, email address, and other information)

David Milliron
PO BOX B 835 California
North Bend, OR 97459
dmilliron@northbendcity.org

§ 8.3 The Contractor's representative:

(Name, address, email address, and other information)

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- 1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- 2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- 3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- 4 Building information modeling exhibit, dated as indicated below:
(Insert the date of the building information modeling exhibit incorporated into this Agreement.)

- 5 Drawings

Number

Title

Date

- 6 Specifications

Section	Title	Date	Pages
.7	Addenda, if any:		
	Number	Date	Pages
Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.			
.8	Other Exhibits: (Check all boxes that apply and include appropriate information identifying the exhibit where required.)		
	<input type="checkbox"/> AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below: (Insert the date of the E204-2017 incorporated into this Agreement.)		
	<input type="checkbox"/> The Sustainability Plan:		
	Title	Date	Pages
	<input type="checkbox"/> Supplementary and other Conditions of the Contract:		
	Document	Title	Date Pages
.9	Other documents, if any, listed below: (List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)		

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

(Printed name and title)

CONTRACTOR (Signature)

(Printed name and title)

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**SECTION 00-7200
GENERAL CONDITIONS**

FORM OF GENERAL CONDITIONS

1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT IS ATTACHED FOLLOWING THIS PAGE.

A. AIA Document A201-2017, General Conditions of the Contract for Construction.

RELATED REQUIREMENTS

2.01 SECTION 00-7300 - SUPPLEMENTARY CONDITIONS.

SUPPLEMENTARY CONDITIONS

3.01 REFER TO DOCUMENT 00-7300 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.

END OF SECTION

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General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

City of North Bend - Visitor Center HUB Rest Area & T-Mobile Plaza
1380 Sherman Ave
North Bend, OR 97459

THE OWNER:

(Name, legal status and address)

City of North Bend
PO BOX B 835 California
North Bend, OR 97459

THE ARCHITECT:

(Name, legal status and address)

HGE Architects, Inc.
333 South 4th Street
Coos Bay, OR 97420

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS**
- 2 OWNER**
- 3 CONTRACTOR**
- 4 ARCHITECT**
- 5 SUBCONTRACTORS**
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**
- 7 CHANGES IN THE WORK**
- 8 TIME**
- 9 PAYMENTS AND COMPLETION**
- 10 PROTECTION OF PERSONS AND PROPERTY**
- 11 INSURANCE AND BONDS**
- 12 UNCOVERING AND CORRECTION OF WORK**
- 13 MISCELLANEOUS PROVISIONS**

ADDITIONS AND DELETIONS:

The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™–2017, Guide for Supplementary Conditions.

14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES



INDEX

(Topics and numbers in bold are Section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,
10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.4**

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,
3.12.10.1, 4.2.7, 9.3.2, 13.4.1

Arbitration

8.3.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Limitations of Authority and
Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,
4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,
9.4.2, 9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,
7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,
13.4.2, 15.2

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,
3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,
3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,
15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5**

Building Information Models Use and Reliance

1.8

Building Permit

3.7.1

Capitalization

1.3

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,
9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval
13.4.4

Certificates of Insurance

9.10.2

Change Orders

1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2

Change Orders, Definition of
7.2.1

CHANGES IN THE WORK

2.2.2, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5

Claims, Definition of

15.1.1

Claims, Notice of

1.6.2, 15.1.3

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4

Claims and Timely Assertion of Claims

15.4.1

Claims for Additional Cost

3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, **15.1.5**

Claims for Additional Time

3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, **15.1.6**

Concealed or Unknown Conditions, Claims for

3.7.4

Claims for Damages

3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3,

11.3.2, 14.2.4, 15.1.7

Claims Subject to Arbitration

15.4.1

Cleaning Up

3.15, 6.3

Commencement of the Work, Conditions Relating to

2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,

6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, **15.1.5**

Commencement of the Work, Definition of

8.1.2

Communications

3.9.1, **4.2.4**

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,

9.10, 12.2, 14.1.2, 15.1.2

COMPLETION, PAYMENTS AND

9

Completion, Substantial

3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1,

9.10.3, 12.2, 15.1.2

Compliance with Laws

2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2,

13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3,

15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2,

15.4.4.2

Consolidation or Joinder

15.4.4

CONSTRUCTION BY OWNER OR BY

SEPARATE CONTRACTORS

1.1.4, **6**

Construction Change Directive, Definition of
7.3.1

Construction Change Directives

1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**, 9.3.1.1

Construction Schedules, Contractor's

3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

15.1.4

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR

SUSPENSION OF THE

5.4.1.1, 5.4.2, 11.5, **14**

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1

Contract Documents, Copies Furnished and Use of

1.5.2, 2.3.6, 5.3

Contract Documents, Definition of

1.1.1

Contract Sum

2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4,

9.1, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2,

12.3, 14.2.4, 14.3.2, 15.1.4.2, **15.1.5**, **15.2.5**

Contract Sum, Definition of

9.1

Contract Time

1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5,

7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1,

8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2,

14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, **6.1.2**

Contractor's Construction and Submittal

Schedules

3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Contractor's Employees

2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6,

10.2, 10.3, 11.3, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2,

9.6.7, 9.10.2, 11.2, 11.3, 11.4

Contractor's Relationship with the Architect

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,

3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2,

6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6,

10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1
Contractor's Representations
3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2
Contractor's Responsibility for Those Performing the Work
3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8
Contractor's Review of Contract Documents
3.2
Contractor's Right to Stop the Work
2.2.2, 9.7
Contractor's Right to Terminate the Contract
14.1
Contractor's Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3
Contractor's Superintendent
3.9, 10.2.6
Contractor's Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4
Coordination and Correlation
1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1
Copies Furnished of Drawings and Specifications
1.5, 2.3.6, 3.11
Copyrights
1.5, **3.17**
Correction of Work
2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1
Correlation and Intent of the Contract Documents
1.2
Cost, Definition of
7.3.4
Costs
2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14
Cutting and Patching
3.14, 6.2.5
Damage to Construction of Owner or Separate Contractors
3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4
Damage to the Work
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4
Damages, Claims for
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7
Damages for Delay
6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2
Date of Commencement of the Work, Definition of
8.1.2
Date of Substantial Completion, Definition of
8.1.3
Day, Definition of
8.1.4
Decisions of the Architect
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of
2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1

Delays and Extensions of Time

3.2, **3.7.4**, 5.2.3, 7.2.1, 7.3.1, **7.4**, **8.3**, 9.5.1, **9.7**, 10.3.2, **10.4**, 14.3.2, **15.1.6**, 15.2.5

Digital Data Use and Transmission

1.7

Disputes

6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site

3.11

Drawings, Definition of

1.1.5

Drawings and Specifications, Use and Ownership of
3.11

Effective Date of Insurance

8.2.2

Emergencies

10.4, 14.1.1.2, **15.1.5**

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1

Equipment, Labor, or Materials

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Extensions of Time

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.6, **15.2.5**

Failure of Payment

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Faulty Work

(See Defective or Nonconforming Work)

Final Completion and Final Payment

4.2.1, 4.2.9, 9.8.2, **9.10**, 12.3, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

GENERAL PROVISIONS

1

Governing Law

13.1

Guarantees (See Warranty)

Hazardous Materials and Substances

10.2.4, **10.3**

Identification of Subcontractors and Suppliers

5.2.1

Indemnification

3.17, **3.18**, 9.6.8, 9.10.2, 10.3.3, 11.3

Information and Services Required of the Owner

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5, 9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Initial Decision

15.2

Initial Decision Maker, Definition of

1.1.8

Initial Decision Maker, Decisions

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Injury or Damage to Person or Property

10.2.8, 10.4

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,

9.9.2, 9.10.1, 12.2.1, 13.4

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2

Instruments of Service, Definition of

1.1.7

Insurance

6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5,

11

Insurance, Notice of Cancellation or Expiration

11.1.4, 11.2.3

Insurance, Contractor's Liability

11.1

Insurance, Effective Date of

8.2.2, 14.4.2

Insurance, Owner's Liability

11.2

Insurance, Property

10.2.5, 11.2, 11.4, 11.5

Insurance, Stored Materials

9.3.2

INSURANCE AND BONDS

11

Insurance Companies, Consent to Partial Occupancy

9.9.1

Insured loss, Adjustment and Settlement of

11.5

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13

Interest

13.5

Interpretation

1.1.8, 1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12

Judgment on Final Award

15.4.2

Labor and Materials, Equipment

1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1,

10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8, 15.4

Liens

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 15.1.2, 15.4.1.1

Limitations of Liability

3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6,

4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3,

11.3, 12.2.5, 13.3.1

Limitations of Time

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,

5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,

9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15,

15.1.2, 15.1.3, 15.1.5

Materials, Hazardous

10.2.4, 10.3

Materials, Labor, Equipment and

1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2,

10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and

Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Mediation

8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, **15.3**, 15.4.1,

15.4.1.1

Minor Changes in the Work

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, **7.4**

MISCELLANEOUS PROVISIONS

13

Modifications, Definition of

1.1.1

Modifications to the Contract

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,

10.3.2

Mutual Responsibility

6.2

Nonconforming Work, Acceptance of

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of

2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4,

12.2

Notice

1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4,

3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4,

8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1,

13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5,

15.1.6, 15.4.1

Notice of Cancellation or Expiration of Insurance

11.1.4, 11.2.3

Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, **15.1.3**, 15.1.5,

15.1.6, 15.2.8, 15.3.2, 15.4.1

Notice of Testing and Inspections

13.4.1, 13.4.2

Observations, Contractor's

3.2, 3.7.4
Occupancy
2.3.1, 9.6.6, 9.8
Orders, Written
1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1
OWNER
2
Owner, Definition of
2.1.1
Owner, Evidence of Financial Arrangements
2.2, 13.2.2, 14.1.1.4
Owner, Information and Services Required of the
2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4
Owner's Authority
1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7
Owner's Insurance
11.2
Owner's Relationship with Subcontractors
1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2
Owner's Right to Carry Out the Work
2.5, 14.2.2
Owner's Right to Clean Up
6.3
Owner's Right to Perform Construction and to Award Separate Contracts
6.1
Owner's Right to Stop the Work
2.4
Owner's Right to Suspend the Work
14.3
Owner's Right to Terminate the Contract
14.2, 14.4
Ownership and Use of Drawings, Specifications and Other Instruments of Service
1.1.1, 1.1.6, 1.1.7, **1.5**, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3
Partial Occupancy or Use
9.6.6, **9.9**
Patching, Cutting and
3.14, 6.2.5
Patents
3.17
Payment, Applications for
4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3
Payment, Certificates for
4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4
Payment, Failure of
9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2
Payment, Final
4.2.1, 4.2.9, **9.10**, 12.3, 14.2.4, 14.4.3
Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**
Payments, Progress
9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4
PAYMENTS AND COMPLETION
9
Payments to Subcontractors
5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2
PCB
10.3.1
Performance Bond and Payment Bond
7.3.4.4, 9.6.7, 9.10.3, **11.1.2**
Permits, Fees, Notices and Compliance with Laws
2.3.1, **3.7**, 3.13, 7.3.4.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION OF
10
Polychlorinated Biphenyl
10.3.1
Product Data, Definition of
3.12.2
Product Data and Samples, Shop Drawings
3.11, **3.12**, 4.2.7
Progress and Completion
4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.4
Progress Payments
9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4
Project, Definition of
1.1.4
Project Representatives
4.2.10
Property Insurance
10.2.5, **11.2**
Proposal Requirements
1.1.1
PROTECTION OF PERSONS AND PROPERTY
10
Regulations and Laws
1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4
Rejection of Work
4.2.6, 12.2.1
Releases and Waivers of Liens
9.3.1, 9.10.2
Representations
3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1
Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1
Responsibility for Those Performing the Work
3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10
Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field Conditions by Contractor
3.2, 3.12.7, 6.1.3
Review of Contractor's Submittals by Owner and Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
Review of Shop Drawings, Product Data and Samples by Contractor

3.12
Rights and Remedies
1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2, 12.2.4, **13.3**, 14, 15.4
Royalties, Patents and Copyrights
3.17
Rules and Notices for Arbitration
15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
3.3.1, 4.2.2, 4.2.7, 5.3, **10.1**, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, **3.12**, 4.2.7
Samples at the Site, Documents and
3.11
Schedule of Values
9.2, 9.3.1
Schedules, Construction
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2
Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2
Separate Contractors, Definition of
6.1.1
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, **3.12**, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1
Site Inspections
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4
Site Visits, Architect's
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4
Special Inspections and Testing
4.2.6, 12.2.1, 13.4
Specifications, Definition of
1.1.6
Specifications
1.1.1, **1.1.6**, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14
Statute of Limitations
15.1.2, 15.4.1.1
Stopping the Work
2.2.2, 2.4, 9.7, 10.3, 14.1
Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1
Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3
Submittal Schedule
3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, **11.3**
Substances, Hazardous
10.3
Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3, 12.2, 15.1.2
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
2.3.3
Substitutions of Materials
3.4.2, 3.5, 7.3.8
Sub-subcontractor, Definition of
5.1.2
Subsurface Conditions
3.7.4
Successors and Assigns
13.2
Superintendent
3.9, 10.2.6
Supervision and Construction Procedures
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4
Suppliers
1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1
Surety
5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7
Surety, Consent of
9.8.5, 9.10.2, 9.10.3
Surveys
1.1.7, 2.3.4
Suspension by the Owner for Convenience
14.3
Suspension of the Work
3.7.5, 5.4.2, 14.3
Suspension or Termination of the Contract
5.4.1.1, 14
Taxes
3.6, 3.8.2.1, 7.3.4.4
Termination by the Contractor
14.1, 15.1.7
Termination by the Owner for Cause
5.4.1.1, **14.2**, 15.1.7
Termination by the Owner for Convenience
14.4
Termination of the Architect
2.3.3
Termination of the Contractor Employment
14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT

14

Tests and Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, **13.4**

TIME

8

Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4

Time Limits on Claims

3.7.4, 10.2.8, 15.1.2, 15.1.3

Title to Work

9.3.2, 9.3.3

UNCOVERING AND CORRECTION OF WORK

12

Uncovering of Work

12.1

Unforeseen Conditions, Concealed or Unknown

3.7.4, 8.3.1, 10.3

Unit Prices

7.3.3.2, 9.1.2

Use of Documents

1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

Use of Site

3.13, 6.1.1, 6.2.1

Values, Schedule of

9.2, 9.3.1

Waiver of Claims by the Architect

13.3.2

Waiver of Claims by the Contractor

9.10.5, 13.3.2, **15.1.7**

Waiver of Claims by the Owner

9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, **15.1.7**

Waiver of Consequential Damages

14.2.4, 15.1.7

Waiver of Liens

9.3, 9.10.2, 9.10.4

Waivers of Subrogation

6.1.1, **11.3**

Warranty

3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2

Weather Delays

8.3, 15.1.6.2

Work, Definition of

1.1.3

Written Consent

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2

Written Interpretations

4.2.11, 4.2.12

Written Orders

1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the

purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

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

but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as

constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

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

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The

Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the

Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term “Sub-subcontractor” is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor’s Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor’s Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor’s rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others

whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

- or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;

- 2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- 3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed

by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve

the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to

fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or

approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- 1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- 2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- 3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- 4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner

may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially

similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

**SECTION 00-7300
SUPPLEMENTARY CONDITIONS**

PART 1 GENERAL

1.01 SUMMARY

- A. These Supplementary Conditions amend and supplement the General Conditions, AIA Document A201-2017 General Conditions of the Contract for Construction defined in Document 00 7200 and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.
- B. The terms used in these Supplementary Conditions that are defined in the General Conditions have the meanings assigned to them in the General Conditions.

1.02 MODIFICATIONS TO GENERAL CONDITIONS

A. ARTICLE 1. GENERAL PROVISIONS

- 1. 1.1.1: Revise the first sentence as set forth below:
 - a. The Contract Documents consist of the Conditions of the Contract (General, Supplementary and other Conditions), Contract Forms as bound or referenced, the Drawings, the Specifications, the Details, all Addenda issued prior to execution of the contract and all modifications issued after execution of the Contract. A draft Agreement is found following this section for Contractor reference (attaches as part of this addendum).
- 2. 1.2 CORRELATIONS AND INTENT OF THE CONTRACT DOCUMENTS
 - a. 1.2.1 Add the following:
 - 1) If work is required in a manner to make it impossible to produce first class work, or should discrepancies appear among contract documents, request interpretation before proceeding with work. If Contractor fails to make such request, no excuse will thereafter be entertained for failure to carry out work in satisfactory manner.
 - b. 1.2.3: Add the following:
 - 1) Reference to technical society, organization, or body is made in specifications in accordance with the following abbreviations:
 - (a) ACI American Concrete Institute
 - (b) AIA American Institute of Architects
 - (c) AIEE American Institute of Electrical Engineers
 - (d) AISC American Institute of Steel Construction
 - (e) ASA American Standard Association
 - (f) APA American Plywood Association
 - (g) ASTM American Society of Testing Materials
 - (h) ASME American Society of Mechanical Engineers
 - (i) AWI Architectural Woodwork Institute
 - (j) AWSA American Welding Society Code
 - (k) CS Commercial Standard
 - (l) FS Federal Specifications
 - (m) IBC International Building Code
 - (n) MIL Military Specifications
 - (o) NBFU National Board of Fire Underwriters
 - (p) NBS National Board of Standards
 - (q) NEC National Electric Code
 - (r) NEMA National Electrical Manufacturer's Assn.
 - (s) NFPA National Fire Protection Association
 - (t) OSHA Occupational Safety and Health Act
 - (u) UBC Uniform Building Code
 - (v) UL Underwriters Laboratory

B. ARTICLE 2 OWNER

1. 2.1.1 Add the following:
 - a. The Owner is defined as City of North Bend.
2. 2.3.6 Substitute the following:
 - a. The Owner through the Architect will furnish to the Contractor Four (4) complete sets of drawings and specifications without charge for use on project. These include sets submitted to Agency having jurisdiction for plans review and building permit. Additional copies may be purchased by Contractor at cost of reproduction.

C. ARTICLE 3 CONTRACTOR

1. 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES
 - a. 3.3.1 Add the following:
 - 1) The Contractor will supervise and direct the work and will review with all subcontractors methods and materials to be used to verify their compliance with all safety standards and laws and be responsible for compliance with same, to insure safe, hazard free conditions for all persons visiting or working on the entire project.
2. 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS
 - a. 3.7.1 Add:
 - 1) The Owner shall pay for the Building Permit fees only. The Contractor shall pay all other permit and plan review fees related to his work and his subcontractors, i.e., plumbing, mechanical and electrical. Owner shall pay any system development fees required.
3. 3.11 DOCUMENTS AND SAMPLES AT THE SITE, Add the following:
 - a. Upon completion of the project transfer all information from the record set of drawings to a clean set of prints and deliver to the Architect. Drawing additions are to be added in contrasting ink and are to be accurate, neat and finished in appearance and show accurate horizontal and vertical dimensions for location of underground work. Drawings must be acceptable to Architect before certification of final payment will be made.
4. 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
 - a. 3.12.5 Add the following:
 - 1) See Section 01-3000 - Administrative Requirements for submittal information, requirements, and procedures.
5. 3.15 CLEANING UP
 - a. 3.15.1 Add the following:
 - 1) Upon completion of any portion of the work, promptly remove temporary facilities generated by that portion of the work, including surplus materials, equipment, and machinery if so directed by the Architect or the Owner. Upon completion of the Work, completely remove temporary facilities. Remove stains, spots and smears from all surfaces. Remove all labels. Leave the premises in a "broom clean" condition.

D. ARTICLE 4 ARCHITECT

1. 4.1.1 Add the following:
 - a. The Architect is defined as HGE Architects, Inc..

E. ARTICLE 5 SUBCONTRACTORS

1. 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK
 - a. 5.2.1 Add the following:
 - 1) The list of subcontractors shall be submitted no later than five (5) days after the bid opening.

F. ARTICLE 7 CHANGES IN THE WORK

1. 7.2 CHANGE ORDERS

a. 7.2.2 Add the following:

- 1) The cost to the Owner resulting from extra work shall be determined by an agreed price which shall include a percentage for overhead and profit as listed below; or shall be the actual cost of the additional direct labor, materials, and subcontract work involved, plus a percentage for overhead and profit as listed below.
(a) The percentage shall not exceed 10% to cover both profit and overhead.
- 2) The credit to the Owner resulting from a deduction of work shall be determined by an agreed price, or the actual cost of direct labor, materials, and subcontract work involved.
- 3) Cost and credits shall be submitted by the Contractor to the Architect in a complete breakdown form, showing cost, overhead and profit.
- 4) Cost shall be limited to the following: Cost of products, including taxes and cost of delivery; cost of labor, including social security, old age, and unemployment insurance, and fringe benefits under collective bargaining agreements; Workmen's Compensation Insurance; bond premiums; and rental value of power tools and equipment. Overhead shall include the following: Supervision, superintendence, wages of time keepers, watchmen, and clerks, hand tools, incidentals, general office expense, and all other proven expenses not included in "cost".

G. ARTICLE 8 TIME

1. 8.2 PROGRESS AND COMPLETION

a. 8.2.4 Add the following:

- 1) The Contractor agrees:
- 2) To proceed upon receipt of the executed Contract and the Notice to Proceed.
- 3) It is hereby understood and mutually agreed, by and between the contractor and the Owner, that the date of beginning and the time for completion of each phase of the work to be done are ESSENTIAL CONDITIONS of this contract.
- 4) The Contractor agrees that said work shall be prosecuted regularly, diligently, at such rate of progress as will insure substantial completion thereof within the time specified. It is expressly understood and agree, by and between the Contractor and the Owner that the time for the completion of the work described herein is reasonable taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

H. ARTICLE 9 PAYMENTS AND COMPLETION

1. APPLICATIONS FOR PAYMENT

a. 9.3.1 Add the following:

- 1) Payment request form shall be submitted on AIA G702 Application for Payment supplemented with AIA G703 Continuation Sheet. Forms will be furnished by Architect if requested by Contractor. Contractor may use their own spreadsheet type format, however line items must exactly match AIA line items.

2. PROGRESS PAYMENTS

a. 9.6.1 Amend as follows:

- 1) After the Architect has issued a certificate for payment the Owner will pay the Contractor ninety-five (95%) percent of the value of material and labor worked into the building or stored on the site before the first day of the month less the aggregate of previous payments.
- 2) Payment will be made on or before the fifteenth (15th) day of the month following the date of the application for payment.
- 3) Upon Substantial Completion of the contract the sum sufficient to increase total payment to ninety-five (95%) percent of the contract amount is due. Thirty (30) days thereafter, provided the work then be fully completed and accepted by the Architect, balance under the contract is due.

I. ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

1. 10.2 SAFETY OF PERSONS AND PROPERTY

a. 10.2.2 Add the following:

- 1) Contractors shall comply with all provisions of OAR 437 Division 155 (Hazard Communication). Contractor shall provide Owner, through the Architect, a copy of MSDS (Material Safety Data Sheets) for all chemicals brought onto the site, and shall maintain an inventory on the job site of such chemicals. Such inventory shall be accessible to those who desire access.

J. ARTICLE 11 INSURANCE AND BONDS

1. 11.1 CONTRACTOR'S INSURANCE AND BONDS

a. 11.1.1 Add the following:

- 1) The Contractor's comprehensive general liability insurance and automobile liability insurance shall not be less than the amount shown below:
- 2) Worker's Compensation as required by law.
- 3) Bodily Injury Liability - Automobile:
 - (a) Each person \$ 500,000
 - (b) Each occurrence \$1,000,000
- 4) Bodily Injury Liability - Except Automobile
 - (a) Each person \$1,000,000
 - (b) Each occurrence \$1,000,000
- 5) Property Damage Liability - Automobile:
 - (a) Each occurrence \$ 500,000
- 6) Property Damage Liability - Except Automobile:
 - (a) Each occurrence \$ 500,000
 - (b) Aggregate occurrence \$1,000,000
- 7) The Contractor will either (1) require each of his subcontractors to procure and maintain during the life of his subcontract, subcontractor's comprehensive general liability, automobile liability, and property damage liability insurance of the type and in the same amounts as specified in this subparagraph; or (2) insure the activity of his subcontractors.
- 8) The Contractor, its subcontractors, if any, and all employers working under this Agreement are subject employers under the Oregon Worker's Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage for all their subject workers.

2. 11.1.2 Substitute the following:

- a. The Contractor shall furnish a Performance Bond in an amount equal to one hundred (100%) percent of the contract sum as security for the faithful performance of this contract and also a Labor and Material Payment Bond in an amount not less than one hundred (100%) percent of the contract sum as security for the payment of all persons performing labor on the project under this contract. Bond shall be written by a company licensed in the State of Oregon and satisfactory to the Owner.

3. 11.1.5 Add the following:

- a. The Contractor is advised that the Owner does not carry "Builder's Risk" Insurance and the Contractor is not required to obtain this insurance.

K. ARTICLE 13 MISCELLANEOUS PROVISIONS

1. 13.1 GOVERNING LAW, Add the following:

- a. General Contractor and each subcontractor to comply with all Federal, State laws pertaining to Social Security, Unemployment Insurance, Tax Regulations. Make prompt payment to designated agencies.
- b. Contractor agrees to abide by all Federal and State regulations pertaining to the employment of minority and ethnic groups including all required affirmative action, and further agrees to hold owner harmless on account of all duties and

responsibilities imposed on Contractor by the terms of any State or Federal Statute, regulation, or other governmental directive.

2. 13.6 Add the following:
 - a. All labor subject to the provisions of ORS 279C.520 and 279C.830 which is performed under this contract shall be paid not less than the prevailing rate of wage for an hour's work in the same trade or occupation in the locality where such labor is performed.

L. ADD ARTICLE 16 SUPPLEMENTAL PUBLIC CONTRACTING STATUTES

1. Refer to attached ORS 279C Requirements for Public Works.
2. Contractor, subcontractor(s) and all persons doing or contracting to do any work shall comply with all provisions of Oregon Public Contracting Laws and regulations, as further specified below.
3. Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor.
 - a. ORS 279C.580(3)(a) requires the prime contractor to include a clause in each subcontract requiring contractor to pay the first-tier subcontractor for satisfactory performance under its subcontract within ten (10) days out of such amounts as are paid to the prime contractor by the public contracting agency; and
 - b. ORS 279C.580(3)(b) requires the prime contractor to include a clause in each subcontract requiring contractor to pay an interest penalty to the first-tier subcontractor if payment is not made within thirty (30) days after receipt of payment from the public contracting agency.
 - c. ORS 279C.580(4) requires the prime contractor to include in every subcontract a requirement that the payment and interest penalty clauses required by ORS 279C.580(3)(a) and (b) be included in every contract between a subcontractor and a lower-tier subcontractor or supplier.
4. Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract, and shall be responsible that all sums due the State Unemployment Compensation Fund from Contractor or any Subcontractor in connection with the performance of the contract shall promptly be paid.
5. Contractor shall not permit any lien or claim to be filed or prosecuted against the public contracting agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted.
6. A notice of claim on contractor's payment bond shall be submitted only in accordance with ORS 279C.600 and 279C.605.
7. Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
8. Contractor shall demonstrate to the Public Contracting Agency that an employee drug-testing program is in place within ten (10) days of receiving a Notice of Award.
9. If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the public contracting agency may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the public contracting agency is unable to determine the validity of any claim for labor or material furnished, the public contracting agency may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.
10. If the Contractor or a first-tier Subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public contract for a public improvement within thirty (30) days after receipt of payment from the public contracting

agency or contractor, the contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the ten (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 ninety (90) day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve District that includes Oregon on the date that is thirty (30) days after the date when payment was received from the public contracting agency or from the Contractor, but the rate of interest shall not exceed thirty (30) percent. The amount of interest may not be waived.

11. If the Contractor or a Subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public contract, the person may file a complaint with the Construction Contractor's Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.
12. Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, or all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.
13. Contractor shall employ no person for more than ten (10) hours in any one day, or forty (40) hours in any one week, except in cases of necessity, emergency, or where public policy absolutely requires it, and in such cases, except in cases of contracts for personal services designated under ORS 279A.055. Contractor shall pay the employee at least time and one-half pay for all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work is five (5) consecutive days, Monday through Friday; or for all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four (4) consecutive days, Monday through Friday, and for all work performed on Saturday and on any legal holidays as specified in ORS 279C.540.
14. The Contractor must give notice to employees who work on this contract in writing, 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 the days per week that the employees be required to work.
15. The provisions of ORS 279C. 800 to ORS 279C.870 relating to the prevailing wage rates will be complied with.
16. Unless exempt under ORS 279C.836(4), (7), (8) or (9), before starting work on this contract, or any subcontract hereunder, contractor and all subcontractors must have on file with the Construction Contractors Board a public works bond with a corporate surety authorized to do business in the state of Oregon in the amount of \$30,000. The bond must provide that the contractor or subcontractor will pay claims ordered by the Bureau of Labor and Industries to workers performing labor upon public works projects. The bond must be a continuing obligation, and the surety's liability for the aggregate of claims that may be payable from the bond may not exceed the penal sum of the bond. The bond must remain in effect continuously until depleted by claims paid under any applicable prevailing wage rate laws, unless the surety sooner cancels the bond. Contractor further certifies that contractor will include in every subcontract or provision requiring a subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt under ORS 279C.836(4), (7), (8) or (9).
 - a. Unless exempt under ORS 279C.836(4), (7), (8) or (9), before permitting a subcontractor to start work on this public works project, the contractor shall verify that the subcontractor has filed a public works bond as required under this section or has elected not to file a public works bond under an exemption.
 - b. Unless public contracting agency has been notified of any applicable exemptions under ORS 279C.836(4), (7), (8) or (9), the public works bond requirement above is

in addition to any other bond contractors or subcontractors may be required to obtain under this contract.

17. Unless exempt, Contractor or contractor's surety and every subcontractor or subcontractor's surety shall file certified payroll statements with the public contracting agency in writing, pursuant to ORS 279C.845.
 - a. If a contractor is required to file certified statements under ORS 279C.845, the public contracting agency shall retain twenty-five percent (25%) of any amount earned by the contractor on the public works project until the contractor has filed with the public agency certified statement as required by ORS 279C.845. The public contracting agency shall pay the contractor the amount retained within fourteen (14) days after the contractor files the required certified statements, regardless of whether a subcontractor has failed to file certified statements required by statute. The public contracting agency is not required to verify the truth of the contents of certified statements filed by the contractor under this section and ORS 279C.845.
 - b. The contractor shall retain twenty-five percent (25%) of any amount earned by a first-tier subcontractor on this public works contract until the subcontractor has filed with the public agency certified statements as required by ORS 279C.845. The contractor shall verify that the first-tier subcontractor has filed the certified statements before the contractor may pay the subcontractor any amount retained. The contractor shall pay the first-tier subcontractor the amount retained within fourteen (14) days after the subcontractor files the certified statements as required by ORS 279C.845. Neither the public agency nor the contractor is required to verify the truth of the contents of certified statements filed by a first-tier subcontractor.
18. All employers, including Contractor, that employ subject workers who work under this contract shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its subcontractors complies with these requirements.
19. All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid.
20. The contract may be canceled at the election of public contracting agency for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.
21. Contractor certifies that it has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontractors.
22. Contractor certifies its compliance with the Oregon tax laws, in accordance with ORS 305.385.
23. In the performance of this contract, the Contractor shall use, to the maximum extent economically feasible, recycled paper, materials, and supplies.
24. Contractor certifies that all subcontractors performing construction work under this contract will be licensed with the Construction Contractors Board or licensed by the state Landscaper Contractors Board in accordance with 701.035 to 701.055 before the subcontractors commence work under this contract.
25. In compliance with the provisions of ORS 279C.525, the following is a list of federal, state and local agencies, of which the Owner has knowledge, that have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of the contract:
 - a. FEDERAL AGENCIES
 - 1) Agriculture, Department of
 - 2) Forest Service
 - 3) Soil Conservation Service
 - 4) Defense, Department of
 - 5) Army Corps of Engineers
 - 6) Environmental Protection Agency
 - 7) Interior, Department of

- 8) Bureau of Sport Fisheries and Wildlife
- 9) Bureau of Outdoor Recreation
- 10) Bureau of Land Management
- 11) Bureau of Indian Affairs
- 12) Bureau of Reclamation
- 13) Labor, Department of
- 14) Occupational Safety and Health Administration
- 15) Transportation, Department of
- 16) Coast Guard
- 17) Federal Highway Administration
- b. STATE AGENCIES:
 - 1) Agriculture, Department of
 - 2) Environmental quality, Department of
 - 3) Fish and Wildlife, Department of
 - 4) Forestry, Department of
 - 5) Geology and Mineral Industries, Department of
 - 6) Human Resources, Department of
 - 7) Land Conservation and Development Commission
 - 8) Soil and Water Conservation Commission
 - 9) State Engineer
 - 10) State Land Board
 - 11) Water Resources Board
- c. LOCAL AGENCIES:
 - 1) City Council
 - 2) County Court
 - 3) County Commissioners, Board of
 - 4) Port Districts
 - 5) Metropolitan Service Districts
 - 6) County Service Districts
 - 7) Sanitary Districts
 - 8) Water Districts
 - 9) Fire Protection Districts

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 00-7346
PREVAILING WAGE RATES**

PART 1 GENERAL

1.01 REQUIREMENTS

- A. The "Prevailing Wage Rates for Public Works Contracts in Oregon" dated October 5, 2025 including any issued corrections or amendments that follow are herein added to the Contract Documents by reference.
- B. BOLI Prevailing Wage Rate information is available upon request, or electronically at www.oregon.gov/boli.
- C. Work under this Contract will be subject to the provisions of ORS 279C.800 to 279C.870, relating to BOLI Prevailing Wage Rates in effect at the time the project was advertised for bids.
- D. Provisions described in this Section or in Exhibit A of the Public Contracting Code Requirement for Public Improvements Contracts over \$50,000, located at the end of the Supplemental General Conditions, will apply regardless of the price of any individual Contract, so long as the combined price of all Contracts award on the project is \$50,000 or more.
- E. If total Contract amount does not exceed \$50,000, Contractor is not required to pay prevailing wage rates.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01-1000 SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: City of North Bend Visitor Center HUB Rest Area & T-Mobile Plaza
- B. Owner's Name: City of North Bend.
- C. Architect's Name: HGE Architects, Inc..
- D. The Project consists of the construction of site improvements (i.e. concrete plaza, seat walls, stage, ADA parking, sloping walk and landscape amenities). This is Phase 1 of the overall North Bend Visitor's Information Center Site Improvement Plan.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00-5200 - Agreement Form.

1.03 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of demolition and removal work is indicated on drawings.
- B. Scope of alterations work is indicated on drawings.
- C. Rough-In Plumbing: Alter existing system and add new construction, keeping existing in operation.
- D. Design-Build Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.

1.04 WORK BY OWNER

- A. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Date of Substantial Completion. Some items include:
 - 1. Surveying
 - 2. Picnic Tables
 - 3. Digital Information Kiosk
 - 4. A portion of Landscaping as noted on Drawings; including Irrigation.

1.05 OWNER OCCUPANCY

- A. Owner intends to continue to occupy adjacent portions of the existing site during the entire construction period.
- B. Owner intends to occupy the Project upon Substantial Completion.
- C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- D. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
 - 1. Locate and conduct construction activities in ways that will limit disturbance to site.
- B. Arrange use of site and premises to allow:
 - 1. Use of adjacent site and premises by the public.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Time Restrictions:
 - 1. Limit conduct of especially noisy exterior work to the hours of 7:00 am to 7:00 pm.

- E. Utility Outages and Shutdown:
 - 1. Limit disruption of utility services to hours the building is unoccupied.
 - 2. Prevent accidental disruption of utility services to other facilities.

END OF SECTION

**SECTION 01-3000
ADMINISTRATIVE REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General administrative requirements.
- B. Preconstruction meeting.
- C. Progress meetings.
- D. Submittals for review, information, and project closeout.
- E. Number of copies of submittals.
- F. Requests for Interpretation (RFI) procedures.
- G. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01-7000 - Execution and Closeout Requirements: Additional coordination requirements.
- B. Section 01-7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01-7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Landscape Architect will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Landscape Architect.
 - 3. Contractor.
 - 4. First-Tier Subcontractors.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties to Contract, Owner and Architect.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

END OF SECTION

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**SECTION 01-4000
QUALITY REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. Testing and inspection agencies and services.
- C. Control of installation.
- D. Mock-ups.
- E. Tolerances.
- F. Defect Assessment.

1.02 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Design Data: Submit for Landscape Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
 - 1. Include calculations that have been used to demonstrate compliance to performance and regulatory criteria provided, and to determine design solutions.
 - 2. Include required product data and shop drawings.
 - 3. Include a statement or certification attesting that design data complies with criteria indicated, such as building codes, loads, functional, and similar engineering requirements.
- C. Test Reports: After each test/inspection, promptly submit two copies of report to Landscape Architect and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Landscape Architect, provide interpretation of results.
 - 2. Test report submittals are for Landscape Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
- D. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Landscape Architect, in quantities specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Landscape Architect.
- E. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.03 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Owner will employ and pay for services of an independent testing agency to perform specified testing.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

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

2.02 MOCK-UPS

- A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.
- B. Accepted mock-ups establish the standard of quality the Landscape Architect will use to judge the Work.
- C. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- D. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- E. Obtain Landscape Architect's approval of mock-ups before starting work, fabrication, or construction.
 - 1. Landscape Architect will issue written comments within seven (7) working days of initial review and each subsequent follow up review of each mock-up.
 - 2. Make corrections as necessary until Architect's approval is issued.
- F. Landscape Architect will use accepted mock-ups as a comparison standard for the remaining Work.
- G. Where mock-up has been accepted by Landscape Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Landscape Architect.

2.03 TOLERANCES

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

2.04 TESTING AND INSPECTION

- A. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Landscape Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Landscape Architect and Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the Work.
 - 3. Agency may not assume any duties of Contractor.
 - 4. Agency has no authority to stop the Work.
- C. Contractor Responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Landscape Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 - 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Landscape Architect.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.05 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

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**SECTION 01-5000
TEMPORARY FACILITIES AND CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Dewatering
- B. Temporary utilities.
- C. Temporary telecommunications services.
- D. Temporary sanitary facilities.
- E. Temporary Controls: Barriers, enclosures, and fencing.
- F. Security requirements.
- G. Waste removal facilities and services.
- H. Project identification sign.

1.02 RELATED REQUIREMENTS

- A. Section 01-5100 - Temporary Utilities.
- B. Section 01-5213 - Field Offices and Sheds.
- C. Section 01-5500 - Vehicular Access and Parking.
- D. Section 01-5813 - Temporary Project Signage.

1.03 DEWATERING

- A. Provide temporary means and methods for dewatering all temporary facilities and controls.
- B. Maintain temporary facilities in operable condition.

1.04 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Water supply, consisting of connection point for Contractor.
 - 2. Use trigger-operated nozzles for water hoses, to avoid waste of water.
- B. Provide and pay for all electrical power and lighting required for construction purposes.

1.05 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
 - 2. Internet Connections: Minimum of one; DSL modem or faster.

1.06 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.07 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

1.08 FENCING

- A. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.09 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft. Maintain fencing to prohibit students from entering site from main high school campus area.

1.10 WASTE REMOVAL

- A. See Section 01-7419 - Construction Waste Management and Disposal, for additional requirements.
- B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- C. Provide containers with lids. Remove trash from site periodically.
- D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

1.11 PROJECT IDENTIFICATION

- A. Provide project identification sign of design and construction indicated on drawings.
- B. Erect on site at location indicated.
- C. No other signs are allowed without Owner permission except those required by law.

1.12 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. Locate offices a minimum distance of 30 feet from existing and new structures.

1.13 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01-5500
VEHICULAR ACCESS AND PARKING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Access roads.
- B. Parking.
- C. Existing pavements and parking areas.
- D. Construction parking controls.
- E. Flag persons.
- F. Haul routes.
- G. Traffic signs and signals.
- H. Maintenance.
- I. Removal, repair.
- J. Mud from site vehicles.

1.02 RELATED REQUIREMENTS

- A. Section 01-5813 - Temporary Project Signage: Post Mounted and Wall Mounted Traffic Control and Informational Signs.
- B. Section 31-2200 - Grading: Specifications for earthwork and paving bases.

PART 2 PRODUCTS

2.01 MATERIALS

2.02 SIGNS, SIGNALS, AND DEVICES

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

PART 3 EXECUTION

3.01 PREPARATION

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

3.02 ACCESS ROADS

- A. Use of designated existing on-site streets and driveways for construction traffic is permitted.
- B. Tracked vehicles not allowed on paved areas.
- C. Extend and relocate as work progress requires, provide detours as necessary for unimpeded traffic flow.
- D. Provide and maintain access to fire hydrants free of obstructions.

3.03 PARKING

- A. Use of existing parking facilities by construction personnel is not permitted.
- B. Arrange for temporary parking areas to accommodate use of construction personnel.

3.04 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.

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

3.05 FLAG PERSONS

- A. Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

3.06 HAUL ROUTES

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

3.07 MAINTENANCE

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

3.08 REMOVAL, REPAIR

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

3.09 MUD FROM SITE VEHICLES

- A. Provide means of removing mud from vehicle wheels before entering streets.

END OF SECTION

**SECTION 01-5713
TEMPORARY EROSION AND SEDIMENT CONTROL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Contractor to maintain erosion control measures on site during construction and remove upon project completion.
- D. Restoration of areas eroded due to insufficient preventive measures.
- E. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 RELATED REQUIREMENTS

- A. Section 31-2200 - Grading: Temporary and permanent grade changes for erosion control.
- B. Section 32-1123 - Aggregate Base Courses: Temporary and permanent roadways.

1.03 REFERENCE STANDARDS

- A. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc-Type Apparatus; 2021.
- B. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.; 1999a (Reapproved 2014).
- C. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2015 (Reapproved 2023).
- D. ASTM D4632/D4632M - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2015a (Reapproved 2023).
- E. ASTM D4751 - Standard Test Methods for Determining Apparent Opening Size of a Geotextile; 2021a.
- F. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2017 (Reapproved 2021).
- G. FHWA FLP-94-005 - Best Management Practices for Erosion and Sediment Control; 1995.

1.04 PERFORMANCE REQUIREMENTS

- A. Comply with all requirements of DEQ for erosion and sedimentation control , even though this project is not required by law to comply.
- B. Best Management Practices Standard: FHWA FLP-94-005.
- C. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.
- D. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
 - 1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
 - 2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 25 years.
- E. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
 - 1. Control movement of sediment and soil from temporary stockpiles of soil.
 - 2. Prevent development of ruts due to equipment and vehicular traffic.

3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- F. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
 1. Prevent windblown soil from leaving the project site.
 2. Prevent tracking of mud onto public roads outside site.
 3. Prevent mud and sediment from flowing onto sidewalks and pavements.
 4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- G. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
 2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.
- H. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
- I. Open Water: Prevent standing water that could become stagnant.
- J. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.05 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Certificate: Mill certificate for silt fence fabric attesting that fabric and factory seams comply with specified requirements, signed by legally authorized official of manufacturer; indicate actual minimum average roll values; identify fabric by roll identification numbers.
- C. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.

PART 2 PRODUCTS

2.01 MATERIALS: .

- A. Mulch: Use one of the following:
 1. Straw or hay.
 2. Wood waste, chips, or bark.
 3. Erosion control matting or netting.
 4. Cutback asphalt.
- B. Biodegradable Straw Wattle:
 1. SediMax-SWB9 (Straw Wattle Biodegradable 9-inch) by Tensar International Corporation; www.tensacorp.com; Telephone number: 1-800-TENSAR-1 (1-800-836-7271). Or approved equal.
 - a. Wattle shall be composed of agricultural straw and be wrapped in biodegradable tubular organic, woven jute net.
 - b. Netting weight shall be approximately 1.28 ounces / linear foot and shall be made from a woven, lightweight woven jute netting. The netting shall have aperture openings measuring 0.50 x 1.0 inches.
 - c. Cylindrical configuration with closed ends.

- 1) Diameter: 9", 12" or 20" dia.
 - 2) Length: 25.00 ft. max.
- C. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
1. Average Opening Size: 30 U.S. Std. Sieve, maximum, when tested in accordance with ASTM D4751.
 2. Permittivity: 0.05 sec⁻¹, minimum, when tested in accordance with ASTM D4491.
 3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355/D4355M after 500 hours exposure.
 4. Tensile Strength: 100 pounds-force, minimum, in cross-machine direction; 124 pounds-force, minimum, in machine direction; when tested in accordance with ASTM D4632/D4632M.
 5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632/D4632M.
 6. Tear Strength: 55 pounds-force, minimum, when tested in accordance with ASTM D4533/D4533M.
 7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.
- D. Silt Fence Posts: One of the following, minimum 5 feet long:
1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot.
 2. Softwood, 4 by 4 inches in cross section.
 3. Hardwood, 2 by 2 inches in cross section.
- E. Biofilter Bags: Plastic mesh bags filled with clean, 100% recycled wood waste.
- F. Concrete Washout System:
1. Provide containment, removal, and disposal of concrete waste and concrete wash water by furnishing, maintaining, and removing temporary concrete washout bins.
 2. Location: Keep washout area at least 50 feet from streets, storm drains, open drainage areas and streams.
- G. Gravel: See Section 32-1123 for aggregate.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.02 PREPARATION

- A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.03 SCOPE OF PREVENTIVE MEASURES

- A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.
- B. Construction Entrances: Traffic-bearing aggregate surface - Existing.
1. Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.
- C. Linear Sediment Barriers: Made of silt fences.
1. Provide linear sediment barriers:
 - a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
 2. Space sediment barriers with the following maximum slope length upslope from barrier:
 - a. Slope of Less Than 2 Percent: 100 feet.
 - b. Slope Between 2 and 5 Percent: 75 feet.
 - c. Slope Between 5 and 10 Percent: 50 feet.
 - d. Slope Between 10 and 20 Percent: 25 feet.
 - e. Slope Over 20 Percent: 15 feet.

- D. Storm Drain Curb Inlet Sediment Trap: Protect each curb inlet using one of the following measures:
 - 1. Filter fabric wrapped around hollow concrete blocks blocking entire inlet face area; use one piece of fabric wrapped at least 1-1/2 times around concrete blocks and secured to prevent dislodging; orient cores of blocks so runoff passes into inlet.
 - 2. Straw bale row blocking entire inlet face area; anchor into pavement.
- E. Storm Drain Drop Inlet Sediment Traps: As detailed on drawings.
- F. Soil Stockpiles: Protect using one of the following measures:
 - 1. Cover with polyethylene film, secured by placing soil on outer edges.
 - 2. Cover with mulch at least 4 inches thickness of pine needles, sawdust, bark, wood chips, or shredded leaves, or 6 inches of straw or hay.
- G. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.
 - 1. Wood Waste: Use only on slopes 3:1 or flatter; no anchoring required.
 - 2. Asphalt: Use only where no traffic, either vehicular or pedestrian, is anticipated.

3.04 INSTALLATION

- A. Traffic-Bearing Aggregate Surface:
 - 1. Excavate minimum of 6 inches.
 - 2. Place geotextile fabric full width and length, with minimum 12 inch overlap at joints.
 - 3. Place and compact at least 6 inches of 1 1/2 to 3 1/2 inch diameter stone.
- B. Silt Fences:
 - 1. Store and handle fabric in accordance with ASTM D4873/D4873M.
 - 2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch high barriers with minimum 36 inch long posts spaced at 6 feet maximum, with fabric embedded at least 4 inches in ground.
 - 3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch high barriers, minimum 48 inch long posts spaced at 6 feet maximum, with fabric embedded at least 6 inches in ground.
 - 4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet, use nominal 32 inch high barriers with woven wire reinforcement and steel posts spaced at 4 feet maximum, with fabric embedded at least 6 inches in ground.
 - 5. Install with top of fabric at nominal height and embedment as specified.
 - 6. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches, with extra post.
 - 7. Fasten fabric to wood posts using one of the following:
 - a. Four nails per post with 3/4 inch diameter flat or button head, 1 inch long, and 14 gage, 0.083 inch shank diameter.
 - b. Five staples per post with at least 17 gage, 0.0453 inch wire, 3/4 inch crown width and 1/2 inch long legs.
 - 8. Fasten fabric to steel posts using wire, nylon cord, or integral pockets.
- C. Straw Bale Rows:
 - 1. Install bales in continuous rows with ends butting tightly, with one bale at each end of row turned uphill.
 - 2. Install bales so that bindings are not in contact with the ground.
 - 3. Embed bales at least 4 inches in the ground.
 - 4. Anchor bales with at least two stakes per bale, driven at least 18 inches into the ground; drive first stake in each bale toward the previously placed bale to force bales together.
 - 5. Fill gaps between ends of bales with loose straw wedged tightly.
 - 6. Place soil excavated for trench against bales on the upslope side of the row, compacted.
- D. Mulching Over Large Areas:
 - 1. Dry Straw and Hay: Apply 2-1/2 tons per acre; anchor using dull disc harrow or emulsified asphalt applied using same spraying machine at 100 gallons of water per ton of mulch.

2. Wood Waste: Apply 6 to 9 tons per acre.
3. Asphalt: Apply at 1200 gallons per acre.
4. Erosion Control Matting: Comply with manufacturer's instructions.

3.05 MAINTENANCE

- A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches or more rainfall at the project site, and daily during prolonged rainfall.
- B. Repair deficiencies immediately.
- C. Silt Fences:
 1. Promptly replace fabric that deteriorates unless need for fence has passed.
 2. Remove silt deposits that exceed one-third of the height of the fence.
 3. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.
- D. Straw Bale Rows:
 1. Promptly replace bales that fall apart or otherwise deteriorate unless need has passed.
 2. Remove silt deposits that exceed one-half of the height of the bales.
 3. Repair bale rows that are undercut by runoff or otherwise damaged, whether by runoff or other causes.
- E. Clean out temporary sediment control structures weekly and relocate soil on site.
- F. Place sediment in appropriate locations on site; do not remove from site.

3.06 CLEAN UP

- A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Architect.
- B. Clean out temporary sediment control structures that are to remain as permanent measures.
- C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

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**SECTION 01-5813
TEMPORARY PROJECT SIGNAGE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project identification sign.

1.02 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements for submittal procedures.
- B. Shop Drawing: Show content, layout, lettering, color, sizes.

PART 2 PRODUCTS

2.01 SIGN MATERIALS

- A. Vinyl sign with reinforced grommets every 2 inches.
 - 1. Size: 48 sq.ft. area

2.02 PROJECT IDENTIFICATION SIGN

- A. Content:
 - 1. Project number, title, logo and name of Owner as indicated on Contract Documents.
 - 2. Names and titles of authorities.
 - 3. Names and titles of Landscape Architect and Consultants.
 - 4. Name of Prime Contractor and major Subcontractors.
- B. Graphic Design, Colors, Style of Lettering: Designated by Landscape Architect.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install project identification sign within 30 days after date fixed by Notice to Proceed.
- B. Erect at designated location.
- C. Install sign surface plumb and level, with butt joints. Anchor securely.
- D. Attached sign securely to woven wire construction fencing.

3.02 MAINTENANCE

- A. Maintain signs and supports clean, repair deterioration and damage.

3.03 REMOVAL

- A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION

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SECTION 01-6000 PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Transportation, handling, storage and protection.
- B. Product option requirements.
- C. Substitution limitations.
- D. Procedures for Owner-supplied products.

1.02 RELATED REQUIREMENTS

- A. Section 01-2500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- B. Section 01-6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.
- C. Section 01-7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 SUBMITTALS

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

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
 - 1. Made outside the United States, its territories, Canada, or Mexico.
 - 2. Containing lead, cadmium, or asbestos.
- C. Where other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01-6116.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01-6116.

2.02 PRODUCT OPTIONS

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

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01-2500 - Substitution Procedures.

3.02 OWNER-SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
 - 2. Arrange and pay for product delivery to site.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
 - 1. Review Owner reviewed shop drawings, product data, and samples.
 - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 - 3. Handle, store, install and finish products.
 - 4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

- A. Provide protection of stored materials and products against theft, casualty, or deterioration.
- B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01-7419.
- C. Store and protect products in accordance with manufacturers' instructions.
- D. Store with seals and labels intact and legible.
- E. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- F. For exterior storage of fabricated products, place on sloped supports above ground.
- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Do not store products directly on the ground.
- J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

- K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- L. Prevent contact with material that may cause corrosion, discoloration, or staining.
- M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

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**SECTION 01-7000
EXECUTION AND CLOSEOUT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Pre-installation meetings.
- C. Cutting and patching.
- D. Surveying for laying out the work.
- E. Cleaning and protection.
- F. Starting of systems and equipment.
- G. Demonstration and instruction of Owner personnel.
- H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- I. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01-4000 - Quality Requirements: Testing and inspection procedures.
- B. Section 01-5000 - Temporary Facilities and Controls: Temporary exterior enclosures.
- C. Section 01-5000 - Temporary Facilities and Controls: Temporary interior partitions.
- D. Section 01-5713 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.
- E. Section 01-7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.03 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
 - 1. On request, submit documentation verifying accuracy of survey work.
 - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
 - 3. Submit surveys and survey logs for the project record.
- C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.
- D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 QUALIFICATIONS

- A. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,
- B. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located. Employ only individual(s) trained and experienced in establishing and maintaining horizontal and vertical

control points necessary for laying out construction work on project of similar size, scope and/or complexity.

1.05 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Perform dewatering activities, as required, for the duration of the project.
- E. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- F. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
- G. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
 - 1. Minimize amount of bare soil exposed at one time.
 - 2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
 - 3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
 - 4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- H. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
- I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 COORDINATION

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

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01-6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 PREPARATION

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

3.03 PREINSTALLATION MEETINGS

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

3.04 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Landscape Architect of any discrepancies discovered.
- C. Owner will locate and protect survey control and reference points.
- D. Control datum for survey is that established by Owner provided survey.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

- F. Promptly report to Landscape Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Landscape Architect.
- H. Utilize recognized engineering survey practices.
- I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
- J. Periodically verify layouts by same means.
- K. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

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

3.06 CUTTING AND PATCHING

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

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

3.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic from landscaped areas.
- F. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Landscape Architect and Owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify 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 complete and tested.
- F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.10 DEMONSTRATION AND INSTRUCTION

- A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at designated location.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

3.11 ADJUSTING

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

3.12 FINAL CLEANING

- A. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- B. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- C. Clean filters of operating equipment.
- D. Clean debris from overflow drains, area drains, and drainage systems.
- E. Clean site; sweep paved areas, rake clean landscaped surfaces.
- F. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.13 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Landscape Architect and Owner.
- B. Accompany Landscape Architect on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Landscape Architect when work is considered ready for Landscape Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Landscape Architect's Substantial Completion inspection.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Landscape Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Landscape Architect.
- F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- G. Notify Landscape Architect when work is considered finally complete and ready for Landscape Architect's Substantial Completion final inspection.
- H. Complete items of work determined by Landscape Architect listed in executed Certificate of Substantial Completion.

3.14 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

**SECTION 01-7800
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.
- D. Evidence of Payments and Release of Liens.

1.02 RELATED REQUIREMENTS

- A. Section 00-7200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01-3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01-7000 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Landscape Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Landscape Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Landscape Architect comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.

- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 3. Field changes of dimension and detail.
 - 4. Details not on original Contract drawings.
 - 5. Contractor to submit clean set of Drawings, transferring all changes that occurred during construction from the working job set of Drawings to a clean set of Drawings. Submit to Architect for review and approval.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Include performance curves, with engineering data and tests.

4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.
- E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Landscape Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- L. Arrangement of Contents: Organize each volume in parts as follows:
 1. Project Directory.
 2. Table of Contents, of all volumes, and of this volume.

3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Photocopies of warranties and bonds.
- M. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Landscape Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
 1. General Warranties:
 - a. Provide one-year warranty as described in the General Conditions, Article 3.5. Warranty period shall commence on the date of the fully executed Certificate of Substantial Completion.
 - b. Weather-tight warranty: The Contractor shall, and hereby does, warranty flashings, roofing, and all other work which is a component part of the roofing to be weather-tight under ordinary wear and usage for a period of two years from and after Substantial Completion of the building. This is an extension of the general one year warranty described above. Further, the Contractor shall warranty that it will make good without delay all defects of labor and materials without additional cost to the Owner.
 2. Additional Warranties: See individual technical specification sections for written warranties for specific projects of work.
 3. Warranty period shall begin upon Substantial Completion, or if a Certificate of Substantial Completion is not issued or if Work which is to be covered by warranty is not then complete, Warranty Period shall begin upon the date of Final Acceptance or on the date appearing on the final Certificate for Payment to the Contractor, whichever is earlier.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
- F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

3.07 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

- A. Submit with Final Application for Payment the following:
 1. Contractor's Affidavit of Payment of Debts and Claims: AIA G706.
 2. Contractor's Affidavit of Release of Liens: AIA G706A, with

- a. Consent of Surety to Final Payment (AIA G707) with accompanying Power of Attorney.
- b. Contractor's release or waivers of liens.
- c. Separate releases or waivers of liens for subcontractors, suppliers, and others with lien rights against property of Owner.

END OF SECTION

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AIA® Document G706®A – 1994

Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)*
City of North Bend - T-Mobile Plaza
1380 Sherman Ave
North Bend, OR 97459
TO OWNER: *(Name and address)*

City of North Bend
PO BOX B 835 California
North Bend, OR 97459

ARCHITECT'S PROJECT NUMBER :
24.048
CONTRACT FOR:

CONTRACT DATED:
11-11-2025

OWNER: []
ARCHITECT: []
CONTRACTOR: []
SURETY: []
OTHER: []

STATE OF:
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

CONTRACTOR'S Authorized Representative *(Signature)*

(Printed name and title)

Date

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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AIA® Document G707™ – 1994

Consent of Surety to Final Payment

PROJECT: *(Name and address)*

City of North Bend - T-Mobile Plaza

1380 Sherman Ave
North Bend, OR 97459

TO OWNER: *(Name and address)*

City of North Bend
PO BOX B 835 California
North Bend, OR 97459

ARCHITECT'S PROJECT NUMBER:

24.048

CONTRACT FOR:

CONTRACT DATED:

11-11-2025

OWNER: []

ARCHITECT: []

CONTRACTOR: []

SURETY: []

OTHER: []

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall
not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

City of North Bend
PO BOX B 835 California
North Bend, OR 97459

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

Attest:
(Seal):

SURETY *(Signature)*

(Printed name and title)

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AIA® Document G706® – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)*
City of North Bend - T-Mobile Plaza
1380 Sherman Ave
North Bend, OR 97459

ARCHITECT'S PROJECT NUMBER:
24.048
CONTRACT FOR:

OWNER: []
ARCHITECT: []
CONTRACTOR: []
SURETY: []
OTHER: []

TO OWNER: *(Name and address)*
City of North Bend
PO BOX B 835 California
North Bend, OR 97459

CONTRACT DATED:
11-11-2025

STATE OF:
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment.
Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose
Indicate Attachment [] Yes [] No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR: *(Name and address)*

CONTRACTOR'S Authorized Representative *(Signature)*

(Printed name and title)

Date

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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**SECTION 01-7900
DEMONSTRATION AND TRAINING**

PART 1 GENERAL

1.01 SUMMARY

- A. Demonstration of products and systems where indicated in specific specification sections.
- B. Training of Owner personnel in operation and maintenance is required for:
 - 1. Electrical systems and equipment.
 - 2. Landscape irrigation.

1.02 RELATED REQUIREMENTS

- A. Section 01-7800 - Closeout Submittals: Operation and maintenance manuals.

1.03 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Training Plan: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
 - 1. Submit to Landscape Architect for transmittal to Owner.
 - 2. Submit not less than four weeks prior to start of training.
 - 3. Revise and resubmit until acceptable.
 - 4. Provide an overall schedule showing all training sessions.
 - 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such as slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.
- C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
 - 1. Include applicable portion of O&M manuals.
 - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 - 3. Provide one extra copy of each training manual to be included with operation and maintenance data.
- D. Training Reports:
 - 1. Identification of each training session, date, time, and duration.
 - 2. Sign-in sheet showing names and job titles of attendees.
 - 3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

1.04 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
 - 1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
 - 2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

- A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.
- B. Demonstration may be combined with Owner personnel training if applicable.
- C. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.
 - 2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- D. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

- A. Conduct training on-site unless otherwise indicated.
- B. Owner will provide classroom and seating at no cost to Contractor.
- C. Provide training in minimum two hour segments.
- D. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.
- E. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 - 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
 - 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
 - 3. Typical uses of the O&M manuals.
- F. Product- and System-Specific Training:
 - 1. Review the applicable O&M manuals.
 - 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
 - 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
 - 4. Provide hands-on training on all operational modes possible and preventive maintenance.
 - 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
 - 6. Discuss common troubleshooting problems and solutions.
 - 7. Discuss any peculiarities of equipment installation or operation.
 - 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
 - 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
 - 10. Review spare parts and tools required to be furnished by Contractor.
 - 11. Review spare parts suppliers and sources and procurement procedures.
- G. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

SECTION 02-4100 DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS

- A. Section 01-1000 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01-1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.
- C. Section 01-5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- D. Section 01-5713 - Temporary Erosion and Sediment Control.
- E. Section 01-6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- F. Section 01-7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- G. Section 31-2200 - Grading: Rough and fine grading.
- H. Section 31-2323 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.
- I. Section 32-9119 - Landscape Grading: Topsoil placement and finish grading.

1.03 DEFINITIONS

- A. Demolish: Dismantle, raze, destroy, or wreck any building or structure or any part thereof.
- B. Remove: Detach or dismantle items from existing construction and dispose of them off site, unless items are indicated to be salvaged or reinstalled.
- C. Remove and Reinstall: Detach or dismantle items from existing construction in a manner to prevent damage. Clean and prepare for reuse and reinstall where indicated.
- D. Existing to Remain: Designation for existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 DEMOLITION

- A. Remove paving and curbs required to accomplish new work.
- B. Within area of new construction, remove foundation walls and footings to minimum 2 feet below finished grade.
- C. Outside area of new construction, remove foundation walls and footings to minimum 2 feet below finished grade.
- D. Remove concrete slabs on grade within site boundaries.
- E. Remove other items indicated, for salvage, relocation, and recycling.

3.02 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.
 7. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
 8. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
 9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements to remain in place and not removed.
1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.
- D. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- E. Hazardous Materials:
1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
- F. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

- A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and 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 life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. 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.
- F. 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.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

**SECTION 03-1000
CONCRETE FORMING AND ACCESSORIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Formwork for cast-in place concrete, with shoring, bracing and anchorage.
- B. Openings for other work.
- C. Form accessories.
- D. Form stripping.

1.02 RELATED REQUIREMENTS

- A. Section 03-2000 - Concrete Reinforcing.
- B. Section 03-3000 - Cast-in-Place Concrete.
- C. Section 03-3523 - Exposed Aggregate Concrete Finishing.

1.03 REFERENCE STANDARDS

- A. ACI 117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
- B. ACI 301 - Specifications for Concrete Construction; 2020.
- C. ACI 318 - Building Code Requirements for Structural Concrete; 2019 (Reapproved 2022).
- D. ACI 347R - Guide to Formwork for Concrete; 2014 (Reapproved 2021).
- E. PS 1 - Structural Plywood; 2023.

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on void form materials and installation requirements.
- C. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties.

1.05 MOCK-UP

- A. Construct a mock-up of formwork for Retaining wall and seat wall, 3 feet long.
 - 1. Include reinforcement, ties, and accessories specified in Section 03-3000.
 - 2. Provide concrete in accordance with provisions of Section 03-3000.
 - 3. Cure concrete in accordance with provisions of Section 03-3000.
- B. Locate mock-up where directed.
- C. Mock-up may not remain as part of the Work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver prefabricated forms and installation instructions in manufacturer's packaging.
- B. Store prefabricated forms off ground in ventilated and protected manner to prevent deterioration from moisture.

PART 2 PRODUCTS

2.01 FORMWORK - GENERAL

- A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.
- B. Design and construct concrete that complies with design with respect to shape, lines, and dimensions.
- C. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.

- D. Comply with relevant portions of ACI 347R, ACI 301, and ACI 318.

2.02 WOOD FORM MATERIALS

- A. Softwood Plywood: PS 1, C Grade, Group 2.

2.03 REMOVABLE PREFABRICATED FORMS

- A. Preformed Plastic Forms: Thermoplastic polystyrene form liner, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- B. Void Forms: Moisture resistant treated paper faces, biodegradable, structurally sufficient to support weight of wet concrete mix until initial set; 2 inches thick.

2.04 FORMWORK ACCESSORIES

- A. Form Ties: Removable type, stainless steel metal, fixed length, cone type, with waterproofing washer, free of defects that could leave holes larger than 1 inch in concrete surface.
- B. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.
- C. Filler Strips for Chamfered Corners: Rigid plastic type; 1/2 by 1/2 inch size; maximum possible lengths.
- D. Embedded Anchor Shapes, Plates, Angles and Bars: As specified in Section 05-5000.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.02 ERECTION - FORMWORK

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.

3.03 APPLICATION - FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.

3.04 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for items to be embedded in passing through concrete work.
- B. Locate and set in place items that will be cast directly into concrete.
- C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.

3.05 FORMWORK TOLERANCES

- A. Construct formwork to maintain tolerances required by ACI 117, unless otherwise indicated.

3.06 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01-4000 - Quality Requirements.

- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure.
- C. Do not reuse wood formwork more than 3 times for concrete surfaces to be exposed to view. Do not patch formwork.

3.07 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.

END OF SECTION

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**SECTION 03-2000
CONCRETE REINFORCING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Reinforcing steel for cast-in-place concrete.
- B. Supports and accessories for steel reinforcement.

1.02 RELATED REQUIREMENTS

- A. Section 03-1000 - Concrete Forming and Accessories.
- B. Section 03-3000 - Cast-in-Place Concrete.
- C. Testing Agency Requirements.

1.03 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Concrete Construction; 2020.
- B. ACI 318 - Building Code Requirements for Structural Concrete; 2019 (Reapproved 2022).
- C. ACI SP-66 - ACI Detailing Manual; 2004.
- D. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement; 2007.
- E. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2024.
- F. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).
- G. CRSI (DA4) - Manual of Standard Practice; 2024.

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. See Section 01 3323 - Shop Drawings, Product Data, Samples for submittal procedures.
- C. Shop Drawings: Comply with requirements of ACI SP-66. Include bar schedules, shapes of bent bars, spacing of bars, and location of splices.
 - 1. Prepare shop drawings under seal of a Professional Structural Engineer experienced in design of work of this type and licensed in the State in which the Project is located.
- D. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.
- E. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.
- F. Reports: Submit certified copies of mill test report of reinforcement materials analysis.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 - 1. Deformed billet-steel bars.
 - 2. Unfinished.
- B. Steel Welded Wire Reinforcement (WWR): Galvanized, deformed type; ASTM A1064/A1064M.
 - 1. Form: Flat Sheets.
 - 2. WWR Style: 4 x 8-W6 x W10.

- C. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage, 0.0508 inch.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
 - 3. Provide stainless steel components for placement within 1-1/2 inches of weathering surfaces.

2.02 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.
- B. Welding of reinforcement is not permitted.
- C. Locate reinforcing splices not indicated on drawings at point of minimum stress.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Maintain concrete cover around reinforcing as follows:
 - 1. Supported Slabs and Joists: 3/4 inch, not exposed to ground or weather.
 - 2. Walls (exposed to weather or backfill): 2 inch.
 - 3. Footings and Concrete Formed Against Earth: 3 inch.
 - 4. Slabs on Fill: 3 inch.
- E. Comply with applicable code for concrete cover over reinforcement.

3.02 FIELD QUALITY CONTROL

- A. An independent testing agency, as specified in Section 01-4000 - Quality Requirements, will inspect installed reinforcement for compliance with contract documents before concrete placement.

END OF SECTION

**SECTION 03-3000
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Concrete retaining walls.
- C. Miscellaneous concrete elements, including equipment pads, light pole bases, flagpole bases, and thrust blocks.
- D. Concrete curing.

1.02 RELATED REQUIREMENTS

- A. Section 01 4000 - Quality Requirements.
- B. Section 32 1313 - Concrete Paving: Sidewalks, curbs and gutters.
- C. Section 03-2000 - Concrete Reinforcing.
- D. Section 03-3523 - Exposed Aggregate Concrete Finishing.

1.03 REFERENCE STANDARDS

- A. ACI 117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
- B. ACI 211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.
- C. ACI 301 - Specifications for Concrete Construction; 2020.
- D. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).
- F. ACI 306R - Guide to Cold Weather Concreting; 2016.
- G. ACI 318 - Building Code Requirements for Structural Concrete; 2019 (Reapproved 2022).
- H. ACI 347R - Guide to Formwork for Concrete; 2014 (Reapproved 2021).
- I. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.
- J. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2024a.
- K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2024.
- L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2025.
- M. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2024.
- N. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.
- O. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2024a.
- P. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2024.
- Q. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2024.
- R. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2025a.
- S. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2020.

- T. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures; 2020.
- U. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2024.

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
- C. Mix Design: Submit proposed concrete mix design.
 - 1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
 - 2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.
 - 3. Indicate proposed mix design complies with fiber reinforcing manufacturer's written recommendations.
- D. Samples for Pigment Color Selection: Submit manufacturer's complete sample chip set, including pigment number and required dosage rate for each color.
- E. Verification Samples: Submit sample chips of specified colors indicating pigment numbers and required dosage rates, for subsequent comparison to installed concrete.
- F. Test Reports: Submit report for each test or series of tests specified.
- G. Sustainable Design Submittal: If any fly ash, ground granulated blast furnace slag, silica fume, rice hull ash, or other waste material is used in mix designs to replace Portland cement, submit the total volume of concrete cast in place, mix design(s) used showing the quantity of portland cement replaced, reports showing successful cylinder testing, and temperature on day of pour if cold weather mix is used.
- H. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 306R when concreting during cold weather.

1.06 MOCK-UP

- A. Construct and erect mock-up panel for architectural concrete surfaces indicated to receive special treatment or finish as result of formwork.
 - 1. Panel Size: Sufficient to illustrate full range of treatment.
 - 2. Locate where directed.
- B. Accepted mock-up panel is considered basis of quality for the finished work. Keep mock-up exposed to view for duration of concrete work.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
 - 2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface. Fill all voids after cones have been removed.

2.02 REINFORCEMENT MATERIALS

- A. Comply with requirements of Section 03-2000.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
 - 1. Acquire cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C33/C33M.
 - 1. Acquire aggregates for entire project from same source.
- C. Fly Ash: ASTM C618, Class C or F.
- D. Calcined Pozzolan: ASTM C618, Class N.
- E. Silica Fume: ASTM C1240, proportioned in accordance with ACI 211.1.
- F. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

- A. Air Entrainment Admixture: ASTM C260/C260M.

2.05 ACCESSORY MATERIALS

- 1. Installation: Comply with ASTM E1643.
- 2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
- 3. Manufacturers:
 - a. Stego Industries, LLC; Stego Wrap Vapor Barrier 15 Mil.:
www.stegoindustries.com/#sle.
 - b. Substitutions: See Section 01-6000 - Product Requirements.
- B. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Grout: Comply with ASTM C1107/C1107M.
 - 2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.
- C. Epoxy Adhesive: Moisture-insensitive, two-part, consisting of epoxy resin, non-metallic aggregate, and activator.
 - 1. Manufacturers:
 - a. Hilti RE-500 V3.
 - b. Simpson SET-XP.
 - c. Or equivalent.

2.06 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
 - 1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.
- B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
- C. Normal Weight Concrete:
 - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4,000 psi, unless drawings indicate otherwise. Concrete should be a minimum of a 6-sack mix.
 - 2. Fly Ash Content: Maximum 25 percent of cementitious materials by weight.
 - 3. Water-Cement Ratio: Maximum 40 percent by weight.
 - 4. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
 - 5. Maximum Slump: 4 inches.
 - 6. Maximum Aggregate Size: 3/4 inch.

2.07 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.
- B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.

3.03 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Notify Architect and Owner's Independent Testing Agency not less than 24 hours prior to commencement of placement operations.
- C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

3.04 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/8 inch or more in height. Provide finish as follows:
 - 1. Grout Cleaned Finish: Wet areas to be cleaned and apply grout mixture by brush or spray; scrub immediately to remove excess grout. After drying, rub vigorously with clean burlap, and keep moist for 36 hours.
 - 2. Fill form tie holes with non shrink grout for uniform appearance and texture prior to grout cleaned finish above.
- D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI 302.1R; thick floor coverings include quarry tile, ceramic tile, and Portland cement terrazzo with full bed setting system.
 - 2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.
 - 3. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
- E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

3.05 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

3.06 FIELD QUALITY CONTROL

- A. An independent testing agency, as specified in Section 01 4000 - Quality Requirements, will inspect installed reinforcement for conformance to contract documents before concrete placement.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

3.07 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.08 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

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**SECTION 03-3523
EXPOSED AGGREGATE CONCRETE FINISHING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Exposed aggregate concrete finish.

1.02 RELATED REQUIREMENTS

- A. Section 03-1000 - Concrete Forming and Accessories.
- B. Section 03-3000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

- A. ACI PRC-303 - Guide to Cast-in-Place Architectural Concrete Practice; 2012.
- B. ACI PRC-308 - Guide to External Curing of Concrete; 2016.
- C. ACI SPEC-301 - Specifications for Concrete Construction; 2020.
- D. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.
- E. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: For each type of product indicated.
- C. Design Mixtures: For each concrete pavement mixture. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
- D. Samples: Submit one, 5 pound plastic bags of each aggregate specified, illustrating size, color and the extremes of color range. Provide information from aggregate supplier indicating source, type, color, and gradation of aggregate shall accompany sample.

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced installer who has completed pavement work similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Perform work in accordance with ACI PRC-303 and ACI SPEC-301.

1.07 MOCK-UPS

- A. Construct mock-up comprised of one vertical field sample panel, approx. 22.75 feet long by 1 feet wide, with full aggregate color range represented.
- B. Locate where directed. (1) one Serpentine Seat Wall.
- C. Mock-up may remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Provide aggregate, pigment, surface retarder, and acid etch solution in manufacturer's original packaging, including use instructions.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Vertical: Serpentine Seat Walls.
- B. Horizontal: T-Mobile Stage.

2.02 EXPOSED AGGREGATE CONCRETE FINISHING

- A. Cementitious Material: ASTM C150/C150M, Type I - Normal portland type; gray color as required to match color of concrete used on standard sidewalks.
 - 1. Use cementitious materials of the same type, brand and source throughout Project.
- B. Exposed Aggregate: Exposed hard, sound, durable, and free of all deleterious materials and staining qualities. Graded and washed to achieve consistent appearance.
 - 1. Provide aggregates from a single source.
 - 2. Store select seeding aggregates off the ground and protected from moisture.
 - 3. Aggregate shall match in color, size, and gradation.
 - 4. Source: Exposed Aggregate Epoxy Pebble by Cascade Stoneworks, www.casacadestoneworks.com, or approved equal.
 - a. Size: 3/8"
 - b. Color: Seaside Green
- C. Admixture: Air entrainment as specified in Section 03-3000.
- D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.03 ACCESSORIES

- A. Surface Retarder for Horizontal Surfaces: Spray-on liquid that retards surface set.
- B. Surface Retarder for Formed and Vertical Surfaces: Form release agent that retards surface set.

2.04 SOURCE QUALITY CONTROL

- A. Concrete testing will be performed by an independent testing agency, as provided in Section 01-4000 - Quality Requirements.
- B. Test samples in accordance with Section 03-3000 and comply with ACI SPEC-301.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that items to be cast into concrete are placed securely and will not impede placing concrete.
- B. Notify Architect minimum 24 hours prior to commencement of concreting operations.

3.02 PREPARATION

- A. Clean formwork surfaces.
- B. Apply surface retarder to formwork in accordance with manufacturer's instructions.
- C. Clean previously placed concrete with steel brush and apply bonding agent in accordance with manufacturer's instructions.

3.03 PLACING CONCRETE

- A. Place concrete in accordance with Section 03-3000 and comply with ACI SPEC-301.

3.04 AGGREGATE EXPOSURE

- A. Seeded Exposed Aggregate Finish: Immediately after floating, broadcast a single layer of aggregate uniformly onto the concrete surface. Tamp seeded aggregate into concrete, and float to entirely embed aggregate with mortar cover of 1/16 inch.
 - 1. Prior to concrete placing operation, all selected seeding aggregate must be thoroughly washed so that it is free of all dust, dirt, and clay particles. The aggregate shall be in a damp condition but without free surface water at the time of seeding application. There shall be sufficient select aggregate on hand to complete the seeding once it has commenced.
 - 2. The select aggregate shall be carefully and uniformly seeded by suitable means so that the entire surface is completely covered with one layer of stone. Stacked stones and flat and silvery particles shall be removed at this time. The aggregate shall be embedded by

suitable means. Care shall be taken to not over-embed and deform the surface. Under no circumstances shall areas lacking sufficient mortar be filled with small quantities of the base concrete mix.

3. Without dislodging aggregate, remove excess mortar by lightly brushing surface with a stiff, nylon bristle broom.
4. Fine-spray surface with water and brush. Repeat water flushing and brushing cycle until cement film is removed from aggregate surfaces to depth required.
5. Work shall be planned so that the concrete placing and aggregate seeding procedures are coordinated with the capabilities of the washing and brushing crew.

3.05 CONCRETE PROTECTION AND CURING

- A. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- B. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these methods.

3.06 CLEANING

- A. When desired finish is achieved, wash and rinse exposed aggregate surfaces.

3.07 DEFECTIVE CONCRETE

- A. Patch, cure, and finish imperfections to match adjacent areas.
- B. Modify or replace concrete not complying with line, detail, and elevations indicated and appearance requirements.

3.08 PROTECTION

- A. Protect concrete from premature drying or staining, excessively hot or cold temperatures, or mechanical injury.

END OF SECTION

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**SECTION 05-7300
DECORATIVE METAL RAILINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Railing systems.

1.02 RELATED REQUIREMENTS

- A. Section 03-3000 - Cast-in-Place Concrete: Placement of anchors in concrete.

1.03 REFERENCE STANDARDS

- A. AAMA 611 - Specification for Anodized Architectural Aluminum; 2024.
- B. AISC 207 - Standard for Certification Programs; 2023.
- C. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings; 2020.
- D. ASTM B211/B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire; 2019.
- E. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
- F. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.
- G. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; 2021.
- H. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.
- I. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).
- J. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).
- K. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2014, with Errata (2020).
- L. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172; 2019, with Editorial Revision (2025).
- M. NAAMM AMP 500-06 - Metal Finishes Manual; 2006.

1.04 SUBMITTALS

- A. Shop Drawings: Indicate railing system elevations and sections, details of profile, dimensions, sizes, connection attachments, anchorage, size and type of fasteners, and accessories. Indicate anchor and joint locations, brazed connections, transitions, and terminations.
 - 1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- B. Manufacturer's Instructions: Indicate installation.
- C. Designer's qualification statement.
- D. Fabricator's qualification statement.
- E. Welders' qualification statement.
- F. Specimen warranty.
- G. Executed warranty.

1.05 QUALITY ASSURANCE

- A. Structural Designer Qualifications: Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located or personnel under direct supervision of engineer.

- B. Fabricator Qualifications: Certified in accordance with AISC 201 and IAS AC172.
- C. Welder Qualifications: Welding processes and welding operators certified in accordance with AWS B2.1/B2.1M within 12 months of scheduled welding work.
- D. Templates: Supply installation templates, reinforcing, and required anchorage devices.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in factory-provided protective coverings and packaging.
- B. Protect materials against damage during transit, delivery, storage, and installation at site.
- C. Inspect materials upon delivery for damage. Replace damaged items.
- D. Prior to installation, store materials and components under cover in dry location.

1.07 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard 1-year warranty against defects in materials, fabrication, finishes, and installation commencing on date of Substantial Completion; complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.01 RAILING SYSTEMS

- A. General: Factory- or shop-fabricated to suit project conditions, for proper connection to building structure, and in largest sizes practical for delivery to site.
- B. Performance Requirements:
 - 1. Structural Requirements: Design and fabricate railings and anchorages to resist loads without failure, damage, or permanent set.
 - a. Handrail and Top Rails: Applying loads simultaneously not required:
 - 1) Distributed Load: 50 lbf/ft minimum, applied horizontally and vertically at top of handrail.
 - 2) Concentrated Load: 200 lbf, minimum, when applied to handrail horizontally and vertically.
 - b. Infill:
 - 1) Concentrated Load: 50 lbf, minimum, when applied to infill horizontally and vertically.
- C. Assembly: Use slip-on, nonweld mechanical fittings, flanges, escutcheons, and wall brackets to join lengths, seal open ends, and conceal exposed mounting bolts and nuts.
- D. Joints: Machined smooth with hairline seams; tightly fitted and secured.
- E. Field Connections: Provide sleeves to accommodate site assembly and installation.
- F. Metal Railing: Engineered, post-supported railing system with metal infill.
 - 1. Configuration: Guardrail only.
 - 2. Top Rail: 1-1/2-inch IPS / 1.9-inch OD diameter aluminum pipe or tube, Schedule 40.
 - 3. Decorative Flanges for Embedded Posts: Circular, collared cover plate without screw holes.
 - 4. Handrail Brackets: Same metal as railing.
 - 5. Fasteners: Concealed.
 - 6. Infill at Picket Railings: Vertical pickets.
 - a. Horizontal Spacing: Maximum 4 inches on center.
 - b. Material: Aluminum tube.
 - c. Shape: Round.
 - d. Size: 3/4-inch IPS / 1.05-inch OD.
 - e. Top Mounting: Welded to underside of top rail.
 - f. Bottom Mounting: Welded to top surface of stringer.
 - 7. Infill at Pipe Railings: Pipe or tube rails sloped parallel to stair.
 - a. Outside Diameter: 1-1/4 inches.

- b. Material: Aluminum pipe or tube, round.
 - c. Vertical Spacing: Maximum 4 inches on center.
 - d. Jointing: Welded and ground smooth and flush.
- 8. End and Intermediate Posts: As shown on drawings.
 - a. Horizontal Spacing: As indicated on drawings.
 - b. Mounting: Welded.

2.02 MATERIALS

- A. Aluminum Components: ASTM B221 or ASTM B221M.
 - 1. Tubes: Schedule 40 pipe.
 - 2. Welding Materials: AWS D1.2/D1.2M.

2.03 FABRICATION

- A. Welded and Brazed Joints: Make visible joints butt tight, flush, and hairline; use methods that avoid discoloration and damage of finish; grind smooth, polish, and restore to required finish.
 - 1. Ease exposed edges to small uniform radius.
 - 2. Welded Joints:

2.04 FINISHES

- A. General: Comply with NAAMM AMP 500-06.
 - 1. Complete mechanical finishes before fabrication. After fabrication, finish joints, bends, abrasions, and surface blemishes to match sheet.
 - 2. Protect mechanical finishes on exposed surfaces from damage.
 - 3. Apply organic and anodic finishes to formed metal after fabrication.
 - 4. Appearance: Limit variations in appearance of adjacent pieces to one-half of range represented in approved samples. Noticeable variations in same piece are not acceptable. Install components within range of approved samples to minimize contrast.
- B. Aluminum Finishes:
 - 1. Class I Color Anodized Finish: AAMA 611 AA-M12C22A44, electrolytically deposited, colored anodic coating not less than 0.7 mil, 0.007 inch thick.
 - 2. Color: Black.
 - 3. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.05 ACCESSORIES

- A. Welding Fittings: Factory- or shop-welded from matching pipe or tube; joints and seams ground smooth.
- B. Sealant: Silicone; black.
- C. Finish Touch-Up Materials: As recommended by manufacturer for field application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate and site conditions are acceptable and ready to receive work.
- B. Verify field dimensions of locations and areas to receive work.
- C. Notify Landscape Architect immediately of conditions that would prevent satisfactory installation.
- D. Do not proceed with work until detrimental conditions are corrected.

3.02 PREPARATION

- A. Protection of In-Place Conditions: Protect existing work before proceeding with installation.
- B. Review installation drawings before beginning installation. Coordinate diagrams, templates, instructions, and directions for installation of anchorages and fasteners.
- C. Clean surfaces to receive railings. Remove materials and substances detrimental to installation.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install components plumb and level, accurately fitted, free from distortion or defects, and with tight joints, except where necessary for expansion.
- C. Anchor securely to structure.
- D. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.
- E. Weld connections that cannot be shop welded due to size limitations.
 - 1. Weld in accordance with AWS D1.1/D1.1M.
 - 2. Match shop welding and bolting.
 - 3. Clean welds, bolted connections, and abraded areas.
 - 4. Touch up shop primer and factory-applied finishes.
 - 5. Repair galvanizing with galvanizing repair paint in accordance with ASTM A780/A780M.
- F. Isolate dissimilar materials with bituminous coating, bushings, grommets, or washers to prevent electrolytic corrosion.

3.04 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per floor level, noncumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

3.05 FIELD QUALITY CONTROL

- A. See Section 01-4000 - Quality Requirements for additional requirements.
- B. Test railings for structural performance in accordance with ASTM E935.
- C. Nonconforming Work: Repair nonconforming work and retest until work complies with specified requirements.
- D. Manufacturer Services: Provide services of manufacturer's field representative to observe railing installation.

3.06 CLEANING

- A. See Section 01-7000 - Execution and Closeout Requirements for additional requirements.
- B. Remove protective film from exposed metal surfaces.
- C. Metal: Clean exposed metal finishes with potable water and mild detergent in accordance with manufacturer recommendations; do not use abrasive materials or chemicals, detergents, or other substances that may damage material or finish.

3.07 PROTECTION

- A. Protect installed components and finishes from damage after installation.
- B. Repair damage to exposed, making finishes indistinguishable from undamaged areas.
- C. Replace finishes and components that have irreparable damage. Ensure damaged areas are indistinguishable from undamaged finishes and surfaces.

END OF SECTION

SECTION 22-0100 PLUMBING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Pipe and pipe fittings, valves - water and gas piping.
- B. Plumbing Specialties: Cleanouts, hose bibs/hydrants.
- C. Plumbing fixtures.
- D. Plumbing Equipment.
- E. Provide material, labor and equipment required for complete plumbing system.
- F. Codes: Install in complete compliance with all codes and regulations. Obtain and pay for all permits and fees applicable to this work.

1.02 SUBMITTALS

- A. Product Data: Provide complete catalog data for all plumbing specialties, fixtures and equipment.

1.03 RELATED WORK

- A. Project Record Documents: Section 01-7800.

PART 2 - PRODUCTS

2.01 PIPING MATERIALS

- A. Sanitary Sewer. ABS Schedule 40 plastic sewer pipe and fillings, ASTM D2680 or D2751, Solvent amount ASTM D2235 at joints.
- B. Water. Seamless copper tube and fittings, hard drawn, Type L, ASTM B88.76 with ASTM B16.29 wrought copper fittings, 150 psi rated, solder type, ASTM B52 Grade 95TA.

2.02 PLUMBING FIXTURES & MATERIALS

- A. Cleanouts:
 - 1. Manufacturer: J.R. Smith, Zurn, Wade, Ancon, or approved substitute.
 - 2. Types:
 - a. 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. Priming Valves: Smith 2699, Wade W8800T, Zurn Z1022, Ancon MS810 or equivalent Precision Plumbing. Locate in closets, under counters or in walls behind Milcor or access panels. Use copper specified in Section 15060, Pipe & Pipe Fittings, for all underground priming lines
- C. Stops: Furnish stop valves for all fixtures. Loose key style, in wall, angle or straight through pattern to fit installation. Stops to be all brass with full turn brass stem and replaceable washer, no plastic. Compression nuts to be high copper content brass. Finish to be copper nickel chrome plate. Product to carry manufacturer's name. Risers to be chrome plated copper. McGuire, Chicago, Brasskraft, or approved substitute.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside piping before assembly.
- C. Prepare piping connections to equipment with flanges or unions.
- D. Coordinate cutting or forming of roof or floor construction to receive drains to required invert elevations.

- E. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.
- F. Verify adjacent construction is ready to receive rough-in work of this Section.

3.02 INSTALLATION

- A. Provide dielectric connections wherever jointing dissimilar metals.
- B. Install piping to conserve building space and not interfere with use of space. Group piping whenever practical at common elevations.
- C. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- D. Provide clearance for installation of insulation and access to valves and fittings.
- E. Slope water piping and arrange to drain at low points.
- F. Install bell and spigot pipe with bell end upstream.
- G. Install specialties in accordance with manufacturer's instructions.
- H. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.
- I. Install water hammer arresters complete with accessible isolation valve.
- J. Install each fixture with chrome plated rigid or flexible supplies with screwdriver stops, reducers, and escutcheons.
- K. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise or overflow.
- L. Install fixtures in strict accordance with manufacturer's instructions. Set level and plumb.
- M. All fixtures in contact with finished walls shall be caulked with waterproof, white, non-hardening sealant which will not crack, shrink or change color with age.

3.03 CLEANOUTS

- A. 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.

3.04 APPLICATION

- A. Use grooved mechanical couplings and fasteners, and dielectric connections only in accessible locations.
- B. Install unions downstream of valves and at equipment or apparatus connections.
- C. Install brass male adapters each side of valves in copper piped system. Sweat solder adapters to pipe.
- D. Remove all labels and tags. Refer to Final Cleaning: Section 01-7000.

END OF SECTION

SECTION 26-0100 ELECTRICAL

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Furnish labor, supervision, permits, materials and equipment to complete the work required by the Contract Documents.
- B. All work shall conform to National Electric Code Standards, Oregon Electrical Specialty Code, Oregon Administrative Rules Chapter 437 and all Codes, rules, and regulations current or latest edition adopted by authorities having jurisdiction at time of permit.
- C. Verify all Utility requirements. Coordinate power, requirements with local service provider. Contractor to pay for all fees and hook up charges.
- D. Contractor shall provide temporary power as required during the course of construction.
- E. Provide all required conduits, junction boxes, switches, wire, receptacles, outlets, panel boards, etc., to provide fully operational power and lighting systems to accommodate food trucks, christmas lights, concerts and other events, and future solar backfeed.

1.02 ELECTRICAL SUBMITTALS:

- A. Operation and Maintenance (O&M) Manuals: Provide all electrical equipment and control information. The purpose of this manual is to provide one comprehensive document that illustrates and describes all the electrical equipment and control systems
 - 1. Provide General and Sub-Contractor's name, contact person, and telephone/fax numbers.
 - 2. O&M Manual shall include warranty information and any equipment documentation.
- B. Project Record Documents (As-Built):
 - 1. Maintain at the site one complete set of full-sized original prints for recording installed conditions (As-Built). Keep record Drawings clean, undamaged and up to date as work progresses. Accurately indicate electrical work as actually installed with indications of all deviations, additions and omissions in red ink. Locate all buried exterior raceways or cables by actual dimensions from walls, center-lines or fixed points of reference.
 - 2. The purpose of these Record drawings is to provide the Owner with an easy to read, complete record of the installation so that at the end of the project the Owner has a revised original contract drawings that represent the actual installation. Color-coded and highlighted notes shall be used if these would make the Record Drawings easier to read.
 - 3. At the completion of the work, Contractor shall furnish the Landscape Architect a set of marked-up drawings. Final payment to the Contractor will not be authorized until these drawings have been submitted to and accepted by the Landscape Architect.
- C. Identification:
 - 1. Provide engraved label for disconnects and panels.
 - 2. Provide typewritten circuit schedules for panelboards.

PART 2 PRODUCTS

2.01 MAIN SERVICE AND DISTRIBUTION

- A. Electrical contractor to provide and install fully operational system (less actual utility connection). Verify all requirements with Utility prior to rough-in.
- B. Coordinate installation, removal and/or relocation of Utility services, poles, etc. with owner and Utility.
- C. Coordinate and/or provide all trenching, backfilling, compaction, repaving or other site restoration as required by the work done in this Division.
- D. Ground and bond the electrical service per NEC Section 250.
- E. Verify fault current value with Utility if not otherwise noted on drawings.

- F. Provide minimum 400amp electrical panel to accommodate future solar backfeed in lockable, stainless steel cabinet at location shown on drawings.
- G. Electrical panelboards shall meet all the constraints stipulated by the scope of the project. Load Centers with plug-on breakers are acceptable so long as they meet the requirement of each specific installation. Requirements may include: Voltage, phase, service entrance rating, fault current rating, conductor lugs, breaker size, etc...
 - 1. Panels shall be fully rated. Panels and breakers rated less than 100% shall be upsized to accommodate designed loads and meet the requirements of the National Electrical Code.
- H. Provide dedicated circuits for the following:
 - 1. 20 amp minimum for wall lighting
 - 2. 60 amp minimum for Future Restroom Building
 - 3. 20 amp minimum for receptacles at T-Mobile stage to accommodate concerts.
 - 4. (2) 50 amp minimum for Food Trucks in plaza.
 - 5. (2) 40 amp minimum for future EV Charging Stations near plaza parking.
 - 6. 20 amp minimum Digital Kiosk

2.02 BASIC MATERIALS

- A. All wire to be in conduit only.
- B. Provide locking junction box and wiring for all light fixtures shown on plans.
- C. Receptacles. Provide in locking junction boxes as shown on drawings. Where not circuited, connect no more than eight (8) receptacles to any circuit. Where receptacles are likely to be used for computer equipment or high-end electronics, limit number of receptacles to 4 or less. Do not connect general utilitarian receptacles (such as in hallways) to computer or high-end electronic circuits.
- D. Provide ground-fault circuit interrupter (GFCI or GFI) at exterior locations and where required by code. Protect by individual device or GFCI breaker as practical for application.

2.03 LIGHTING FIXTURES & CONTROL

- A. Wall Lighting:
 - 1. Outdoor ColorBright RGB + Tunable White LED Strip Light by Flexfire; www.flexfire.com; or approved equal.
 - a. Provide strip lights and control system for complete light system.
 - b. Color Temperature Range: 2400K - 6500K
 - c. Voltage: 24V DC
 - d. LED Pitch: 3/4"
 - e. Strip Width: 5/8"
 - f. Cutting Points: every 4-inches
 - g. Max. Run in Series: 16ft
 - h. Dimmable capabilities
 - i. IP65 Rating for Outdoor / Wet Locations
 - j. Provide vandal proof housing

2.04 CONDUIT

- A. Contractor to provide and size all electrical conduit as needed to complete the electrical and lighting requirements of the project.
- B. Provide 4" minimum electrical conduit from electrical panel through retaining wall to upper plaza for future solar structure at Heritage Display as shown on plans.

END OF SECTION

SECTION 31-2200 GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Removal of topsoil.
- B. Rough grading the site for site structures.
- C. Finish grading for planting.

1.02 RELATED REQUIREMENTS

- A. Section 31-2323 - Fill: Filling and compaction.
- B. Section 32-9300 - Plants: Topsoil in beds and pits.

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 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.
- B. Verify the absence of standing or ponding water.

3.02 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. Provide temporary means and methods to remove all standing or ponding water from areas prior to grading.
- F. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, and fences, from damage by grading equipment and vehicular traffic.

3.03 ROUGH GRADING

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- D. Strip the existing gravel paved area as required to prep for foundation. Stock pile gravel for backfill upon construction of foundation.
- E. Strip the pavement areas as required to remove existing vegetation and roots. Stripping depths are generally expected to be 12" or less. Dispose of all strippings outside of construction areas. Refer to Geotechnical Report.
- F. Strip the existing gravel paved area as required to prep for foundation. Stock pile gravel for backfill upon construction of foundation.

- G. Site plan indicates grades prior to site demo and gravel fill. Excavation required to place footing into existing original grade. Dispose of all strippings outside of construction areas.
- H. Excavate as required to accommodate the minimum pavement section in areas requiring cuts. Overexcavate any soft subgrade and replace it with compacted Select Fill or Granular Site Fill. Compact the subgrade during dry weather as specified above.
- I. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- J. When excavating through roots, perform work by hand and cut roots with sharp axe.
- K. See Section 31-2323 for filling procedures.
- L. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key fill material to slope for firm bearing.
- M. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.
- N. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of surface water control.

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, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.
- C. Where topsoil is to be placed, scarify surface to depth of 6 inches.
- D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
- E. Place topsoil in areas where seeding, sodding, and planting are indicated.
- F. Place topsoil where required to level finish grade.
- G. Place topsoil to the following uncompacted thicknesses:
 - 1. Areas to be Seeded with Grass: 6 inches.
 - 2. Areas to be Sodded: 4 inches.
 - 3. Shrub Beds: 18 inches.
 - 4. Other areas not noted; 4 inches.
 - 5. Refer to Drawings for topsoil depths required in biofiltration areas.
- H. Place topsoil during dry weather.
- I. Remove roots, weeds, rocks, and foreign material while spreading.
- J. Near plants spread topsoil manually to prevent damage.
- K. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- L. Roll placed topsoil.
- M. Maintain stability of topsoil during inclement weather. Replace topsoil in areas where surface water has eroded thickness below specifications.

3.05 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch).
- C. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.
- D. Top Surface of Finish Grade: Plus or minus 1/2 inch.

3.06 REPAIR AND RESTORATION

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.

3.07 FIELD QUALITY CONTROL

- A. See Section 31-2323 for compaction density testing.

3.08 CLEANING

- A. Remove unused stockpiled topsoil. Grade stockpile area to prevent standing water.
- B. Leave site clean and raked, ready to receive landscaping.

END OF SECTION

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SECTION 31-2316 EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Excavating for building volume below grade, footings, and paving.
- B. Trenching for utilities outside the building to utility main connections.
- C. Temporary excavation support and protection systems.

1.02 RELATED REQUIREMENTS

- A. Section 01-5713 - Temporary Erosion and Sediment Control: Slope protection and erosion control.
- B. Section 01-7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring. General requirements for dewatering of excavations and water control.
- C. Section 31-2200 - Grading: Soil removal from surface of site.
- D. Section 31-2200 - Grading: Grading.
- E. Section 31-2316.13 - Trenching: Excavating for utility trenches to utility main connections.
- F. Section 31-2323 - Fill: Fill materials, backfilling, and compacting.

1.03 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Project Record Documents: Record drawings at project closeout according to 01-7000 - Execution and Closeout Requirements. Show locations of installed support materials left in place, including referenced locations and depths, on drawings.
- C. Field Quality Control Submittals: Document visual inspection of load-bearing excavated surfaces.

1.04 QUALITY ASSURANCE

- A. Temporary Support and Excavation Protection Plan:
 - 1. Indicate sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property.

1.05 PROJECT CONDITIONS

- A. Verify that survey bench mark and intended elevations for the Work are as indicated.

PART 2 PRODUCTS - NOT USED

2.01 MATERIALS

- A. Bedding and Fill to Correct Over-Excavation:
 - 1. See Section 31-2323 for bedding and corrective fill materials at general excavations.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that survey bench mark and intended elevations for the work are as indicated.
- B. Survey existing adjacent structures and improvements and establish exact elevations at fixed points to act as benchmarks.
 - 1. Resurvey benchmarks during installation of excavation support and protection systems and notify Owner if any changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. See Section 31-2200 for topsoil removal.
- C. Locate, identify, and protect utilities that remain and protect from damage.
- D. Notify utility company to remove and relocate utilities.
- E. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- F. Protect plants, lawns, rock outcroppings, and other features to remain.
- G. Grade top perimeter of excavation to prevent surface water from draining into excavation. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by Architect.

3.03 EXCAVATING

- A. Excavate to accommodate new structures and construction operations.
- B. Building Foundation Excavation:
 - 1. Building pad footprint to be cut to 2-3 feet deep to remove all loose organic rich topsoil. Dispose of all strippings outside of construction areas. Refer to Geotechnical Report.
 - 2. Excavate for the footings using a hoe equipped with a smooth-edged bucket. The excavation depth should accommodate a minimum of 6 inches of compacted Select Fill beneath the footings, or as required in Section 31-2323 FILL. The fill should extend at least 6 inches beyond the edges of all footings.
 - 3. Overexcavation will be required for footing excavations terminating in soft material, clay or unsuitable fill. The finished footing excavations should be observed by Architect to confirm the foundation soils and determine if any additional excavation is required.
- C. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- D. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- E. Cut utility trenches wide enough to allow inspection of installed utilities.
- F. Hand trim excavations. Remove loose matter.
- G. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31-2323.
- H. Provide temporary means and methods, as required, to remove all water from excavations until directed by Architect. Remove and replace soils deemed suitable by classification and which are excessively moist due to lack of dewatering or surface water control.
- I. Determine the prevailing groundwater level prior to excavation. If the proposed excavation extends less than 1 foot into the prevailing groundwater, control groundwater intrusion with perimeter drains routed to sump pumps, or as directed by the Architect. If the proposed excavation extends more than 1 foot into the excavation, control groundwater intrusion with a comprehensive dewatering procedures.
- J. Remove excavated material that is unsuitable for re-use from site.
- K. Stockpile excavated material to be re-used in area designated on site.
- L. Remove excess excavated material from site.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection and testing.
- B. Provide for visual inspection of load-bearing excavated surfaces by Architect before placement of foundations.

3.05 PROTECTION

- A. Divert surface flow from rains or water discharges from the excavation.
- B. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- C. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in satisfactory, undisturbed condition.
- D. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- E. Keep excavations free of standing water and completely free of water during concrete placement.

END OF SECTION

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**SECTION 31-2316.13
TRENCHING**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Utility Trench Excavation, Bedding, and Backfill.
- B. This section consists of furnishing all labor, materials, incidentals and equipment, as well as performing all work required for excavation, foundation stabilization, pipe bedding, pipe zone material, trench backfill, compaction, final grading, hauling and disposal of material resulting from the construction of utility piping, and all related appurtenances. Included also is the locating and protecting of existing utilities and other improvements (see Division 1), shoring, and bracing, excepting only such work as is covered and included under other sections of this Division, or other Divisions of these Contract Documents.
- C. Excavation must be in accordance with ORS 757.541 to 757.571 and all other applicable laws and regulations.

1.02 RELATED REQUIREMENTS

- A. Section 31-2200 - Grading
- B. Section 31-2319 - Dewatering
- C. Section 31-4100 - Shoring
- D. Section 01-4000 - Quality Requirements

1.03 DEFINITIONS

- A. Trench Excavation - Trench excavation consists of the removal of all material encountered in the trench to the limits shown on the Plans or as directed. Trench excavation shall be classified as either unclassified excavation or rock excavation.
 - 1. Unclassified excavation is defined as the removal of all material as required to complete the planned improvements, regardless of type, nature or condition of materials encountered, except that which is designated as rock excavation.
 - 2. Rock excavation is defined as the removal of boulders composed of igneous, sedimentary or metamorphic stone material which have a least dimension of 36-inches or more, or a displacement of one cubic yard or more; or the removal of solid ledge rock which, in the opinion of the Engineer, requires for its removal drilling and blasting, wedging, sledging, barring or breaking with power operated tools.
 - a. No soft or disintegrated rock; hard-pan or cemented gravel that can be removed with a hand pick or power operated excavator or shovel; no loose, shaken, or previously blasted rock or broken stone in rock fillings or elsewhere; and no rock outside of the minimum limits of measurement allowed, which may fall into the excavation, will be measured or allowed.
 - b. When solid rock layers have an overburden of non-rock material (unclassified material) which cannot practically be stripped and handled separately, and/or when solid rock is interspersed with non-rock material, the entire mass will be classified as solid rock if the actual solid rock fraction exceeds 85% of the entire volume.
- B. Trench Foundation - Trench foundation is defined as the bottom of the trench on which the pipe bedding is to lay and which provides support for the pipe.
- C. Foundation Stabilization - Foundation stabilization is defined as the furnishing, placing and compacting of specified materials for any unsuitable material removed from the bottom of an excavation, as directed by the Engineer, to provide a firm trench foundation.
- D. Pipe Bedding - Pipe bedding is defined as the furnishing, placing and compacting of specified materials on the trench foundation so as to uniformly support the barrel of the pipe. The total bedding depth shall be as shown on the Contract Drawings.

- E. Pipe Zone - Pipe zone is defined as the furnishing, placing and compacting of specified materials for the full width of the trench and extending from the top of the bedding to a level above the top outside surface of the barrel of the pipe as shown on the Contract Drawings.
- F. Trench Backfill - Trench backfill is defined as the furnishing, placing and compacting of material in the trench extending from the top of the pipe zone to the bottom of pavement base, ground surface or surface material. Plans generally show locations for each type of backfill class.
- G. Drain Rock - Drain rock is defined as the furnishing, placing and compacting of specified free draining material for the full width of the drain trench (perforated pipe drains) and extending to a level as specified above the top outside surface of the pipe barrel.

1.04 REFERENCES

- A. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2012. ASTM D698-12e2.
- B. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2015. ASTM D6938-15.
- C. Oregon Standard Specifications (OSS) - The Oregon Department of Transportation, ODOT/APWA Oregon Chapter Standard Specifications for Construction; 2021 Edition.

1.05 SUBMITTALS

- A. See Section 01 7800 Closeout Submittals for Shop Drawings, Product Data, Samples for submittal procedures.
- B. Samples: 10 lb sample of each type of fill; submit in air-tight containers to testing laboratory. Submit at least 2 weeks in advance of use.
- C. Materials Sources: Submit name of imported materials source.
- D. Compaction Density Test Reports.
- E. Drawings, data, methods and use plans for shoring and bracing.
- F. Drawings, data, method and use plans for bypass pumping and dewatering.

1.06 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 designated.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination. Maintain stockpiles neat and orderly.
 - 3. Access to all fire hydrants, water valves and meters, manholes, and other equipment and valves shall be maintained. Stockpiles shall not be permitted to block any stormwater drainage ditches, gutters, drain inlets, culverts or natural water courses.
 - 4. Protect stockpiled material which is to be later incorporated into the work so that excessive wetting or drying of the material does not occur. Material shall be brought to near optimum moisture content prior to placement and compaction. Depending on the moisture content of stockpiled materials, necessary processing may include aeration, mixing and/or wetting. No additional payment will be allowed for protecting or preparing native backfill materials.
 - 5. If approved native materials become unsuitable (too wet or mixed with unsuitable materials) due to negligence by the Contractor, then imported granular materials may be required for backfilling at the subject location at no additional cost to the Owner.
 - 6. Comply with all requirements of the 1200-C Construction Stormwater Permit (if applicable).
 - 7. Protect stockpiles from erosion and deterioration of materials. Provide necessary protection so that silt-laden runoff does not occur and to prevent wind blown dust. Grade to prevent surface water from ponding on stockpiles.
 - 8. Remove promptly any materials no longer needed at Site. Clean storage and stockpile areas when complete to a condition equal to or better than previous.

PART 2 - PRODUCTS

2.01 TRENCH FILL MATERIALS

- A. Trench Foundation - the trench foundation shall be undisturbed native material when suitable. Where ground water or other unstable conditions exist and the native material cannot properly support the pipe, additional excavation may be required. The trench shall be stabilized with foundation stabilization material when such conditions are present in the opinion of the Engineer.
- B. Foundation Stabilization - Use commercially available 2½"-0, 2"-0, or 1½"-0 aggregate base rock. Required when native trench foundation material contains groundwater, or is unsuitable to provide a firm foundation in the opinion of the Engineer.
- C. Pipe Bedding - Material for pipe bedding shall be commercially available ¾"- 0 or 1"-0 crushed rock, free from organic matter, generally complying with the gradation requirements of OSSC Section 02630 for dense graded aggregate.
- D. Pipe Zone - Use either Class C Backfill or same material used for bedding.
- E. Trench Backfill
 - 1. Class "A" Backfill: Native or common excavated material, free from organic or other deleterious material, free from rock larger than 2-inches, and which meets the characteristics required for the specific surface loading or other criteria of the backfill zone in the opinion of the Engineer. If stockpiled material becomes saturated or unsuitable, Class B or C Backfill shall be substituted. Engineer must approve material prior to use.
 - 2. Class "B" Backfill: commercially available ¾"- 0 or 1"-0 crushed rock, free from organic matter, generally complying with the gradation requirements of OSSC Section 02630 for dense graded aggregate.
 - 3. Class "C" Backfill: Clean, well-graded sand.
 - 4. Class "E" Backfill (CLSM or CDF): Controlled Low-Strength Material (cement slurry) conforming to OSS Section 00442.
 - a. Slurry shall consist of a highly flowable lean concrete mix; mixture of Portland cement, fly ash, fine aggregates, water and admixtures as required for a mixture that results in a hardened, dense, non-settling, hand excavatable fill.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.
- B. Verify proper approved plans are in place for shoring, bypass pumping, dewatering, traffic control, etc.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. Clearing & Grubbing and removal of obstructions to be completed prior to excavation.
- C. Incidental to excavation shall be the furnishing, installing and removal of all shoring, sheeting, bracing and pumping equipment as required to support adjacent earth banks and structures, keep excavations free from water, and to provide for the safety of the public and all personnel working in excavations.
- D. Locate, identify, and protect utilities that remain and protect from damage.
- E. Saw-cut existing pavements where required to proper limits in clean and straight lines as required.
- F. Notify utility company for new services and/or removal and relocation of existing utility connections.
- G. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, curbs, and service connections to remain from excavating equipment and vehicular traffic.

- H. Protect plants, lawns, rock outcroppings, and other features to remain.
- I. Coordinate and provide all utility locates prior to any excavation as required by local, state and federal laws and regulations. When the precise location of subsurface structures and/or utilities is unknown, locate such items by hand excavation prior to utilizing mechanical excavation equipment. Use hand excavation when mechanical equipment might damage existing improvements which are to remain undisturbed. See Division 1 for other requirements.

3.03 TRENCHING

- A. Notify Architect or Engineer 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 large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
- G. Remove, haul, and dispose of all formations and materials, natural or man-made, irrespective of nature or conditions encountered, within lines and grades shown on the Plans or defined herein, and as necessary for completion of the proposed improvements. The method of excavation shall be as determined by the Contractor, and as required for special protection of existing improvements. Special care shall be taken to avoid overexcavation below subgrades. Store and protect materials suitable for use as backfill where applicable.
- H. Remove excavated material that is unsuitable for re-use from site.
- I. Remove excess excavated material from site.
- J. Excavate to the lines and grades shown on the project Plans, allowing for forms, shoring, working space and bedding. Provide a minimum clearance around pipe barrel in all directions or greater in accordance with the standard trench detail drawing.
- K. Shoring and Bracing
 - 1. Sheet and brace excavation as necessary to prevent caving and to protect adjacent structures, property, workers and the public.
 - 2. The design, planning, installation and removal of all sheeting, shoring, sheet piling, lagging and bracing shall be accomplished in such a manner as to maintain the required excavation or trench section and to maintain the undisturbed state of the soil below and adjacent to the excavation.
 - 3. Horizontal strutting below the barrel of a pipe and the use of pipe as support are not acceptable.
 - 4. All sheeting, shoring and bracing shall conform to safety requirements of OSHA and other Federal, State and local agencies.

3.04 PREPARATION FOR UTILITY PLACEMENT

- A. Compact subgrade to density equal to or greater than requirements for subsequent fill material. Over-excavate and place Foundation Stabilization material where necessary or directed.
- B. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.
- C. When, in the opinion of the Engineer, the trench foundation materials are not suitable for the support of the pipe, soft soils shall be removed and Foundation Stabilization materials, as specified, shall be placed and compacted in lifts not exceeding 6-inches in compacted thickness to the required grade. Each lift shall be thoroughly compacted at dry density in accordance with ASTM D698.

3.05 BACKFILLING

- A. Backfill to contours and elevations indicated using unfrozen materials. Fill up to subgrade elevations unless otherwise indicated. Employ a placement method that does not disturb or damage other work. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- B. Maintain optimum moisture content of fill materials to attain required compaction density. Before placing the material, condition, aerate, or wet the material so that the moisture content of each layer is within minus 4% to plus 2% of optimum moisture content.
- C. Place and compact pipe bedding material before placing pipe in the trench. Dig depression for pipe bells to provide uniform bearing along the entire pipe length. Place and compact bedding material in even lifts not exceeding 6-inches in depth until the required depth is obtained. Thoroughly compact each lift of bedding material at dry density in accordance with ASTM D698.
- D. Place materials in the pipe zone, in layers not exceeding 6-inches thick, in a manner that equalizes the pressure on the pipe and minimizes stress. As required under the haunches of pipe and areas not accessible to mechanical tampers or to testing, compact with hand methods to ensure thorough contact between the material and the pipe. Thoroughly compact.
- E. Backfill the trench above the pipe zone in successive lifts not exceeding 9-inches in loose thickness. Do not allow the backfill to free-fall into the trench until at least 3 feet of cover is provided over the top of the pipe. Each lift shall be compacted, using suitable mechanical or pneumatic equipment, to a dry density as determined by ASTM D698. If the specified compaction is not obtained, the Contractor may be required to use a modified compaction procedure and/or reduce the thickness of lifts. If approved materials meeting the specifications cannot be compacted to the required density regardless of compactive effort or method, the Engineer may reduce the required density or direct that alternate materials be used. In no case shall excavation and pipe laying operations proceed until the Contractor is able to compact the backfill to the satisfaction of the Engineer.
- F. CLSM. When CLSM Backfill is required, backfill above pipe zone with CLSM material. If the CLSM is to be used as a temporary surfacing, backfill to top of the trench and strike off to provide a smooth surface. If CLSM is not to be used as a temporary surface, backfill to bottom of the proposed resurfacing. Use steel plates to protect the CLSM from traffic a minimum of 24 hours.
- G. When backfilling is complete; the Contractor shall finish the surface area as specified. In paved or graveled areas, the Contractor shall maintain the surface of the trench backfill level with
- H. Correct areas that are over-excavated.
 - 1. Thrust bearing surfaces: Fill with concrete.
 - 2. Other areas: Use specified Foundation Material, compacted to minimum 95 percent of maximum dry density.
- I. Reshape and re-compact fills subjected to vehicular traffic.

3.06 FIELD QUALITY CONTROL

- A. Perform compaction density testing on compacted fill in accordance with ASTM D6938.
- B. See Section 01-4000 for quality requirements.

END OF SECTION

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SECTION 31-2319 DEWATERING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Controlling surface water runoff, dewatering pipeline trenches and structural excavations and other elements required for control of water if work conditions should dictate the need.

1.02 RELATED SECTIONS

- A. Section 31-4100 - Shoring.
- B. Section 31-2323 - Fill.
- C. Section 31-2316 - Excavation
- D. Section 31-2316.13 - Trenching

1.03 SUBMITTAL

- A. Prior to commencing excavation, the Contractor shall submit a statement of the method, installation and details of proposed dewatering system to Engineer. The statement shall also include disposal.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials and equipment required for control of water shall be furnished and maintained as required to perform the construction.

PART 3 - EXECUTION

3.01 GENERAL

- A. The necessary machinery, appliances and equipment shall be provided and operated to keep excavations free from water during construction, and to dispose of the water so as not to cause injury to public or private property or to cause a nuisance or a menace to the public. Sufficient pumping equipment and machinery in good working condition shall be provided for all emergencies including power outage, and sufficient workers shall be available at all times for the operation of the pumping equipment.
- B. The dewatering system shall not be shut down between shifts, on holidays or weekends or during work stoppages without written permission from the Architect.

3.02 CONTROL OF WATER

- A. Control of groundwater such that softening of the bottom of excavations, or formation of "quick" conditions or "boils" during excavation, shall be prevented. Dewatering systems shall be designed and operated so as to prevent removal of the natural soils. Natural or compacted soils softened by saturation with groundwater or standing surface water shall be removed and replaced as instructed by the Engineer at no additional expense to the Owner.
- B. During construction of structures, installation of pipelines, placing of structure and trench backfill and the placing and setting of concrete, excavations shall be kept free of water. Surface runoff shall be controlled so as to prevent entry or collection of water in excavations. The static water level shall be drawn a minimum of one foot below the bottom of the excavation, except two feet below the bottom of excavations for structures, so as to maintain the undisturbed state of the foundation soils and allow the placement of fill or backfill to the required density. The dewatering system shall be installed and operated so that the groundwater level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property.
- C. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill and prevent flotation or movement of structures and pipelines. Underdrain systems and hydrostatic relief valves shall be operational prior to release of groundwater.

- D. The Contractor shall not obstruct any component of the existing storm drain system but shall use proper measures to provide for the free passage of surface water.
- E. Provisions shall be made to take care of surplus water, mud, silt, or other runoff pumped from excavations and trenches or resulting from sluicing or other operations. Siltation of completed or partially completed structures and pipelines by surface water or by disposal of water from dewatering operations shall be cleaned up at the Contractor's expense.
- F. Discharge of ground and surface runoff water shall be to the existing drainage ways and storm systems. Contractor shall comply with all applicable federal, state and local laws and regulations pertaining to erosion control and discharge of water off-site.
- G. The Contractor shall be responsible for any damages to existing on- and off-site facilities and work in-place resulting from mechanical or electrical failure of the dewatering system.
- H. Pumping of native silts and sands shall be avoided.

END OF SECTION

**SECTION 31-2323
FILL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Filling, backfilling, and compacting for curbs, footing subgrades, building volume below grade, footings, slabs-on-grade, and utilities within the building.
- B. Backfilling and compacting for utility trenches shall be as specified in 31 2316.13 - Trenching.
- C. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.
- D. Filling with Cobble Stone at drainage swales.

1.02 RELATED REQUIREMENTS

- A. Section 01-5713 - Temporary Erosion and Sediment Control: Slope protection and erosion control.
- B. Section 31-2200 - Grading: Site grading.
- C. Section 31-2316 - Excavation: Removal and handling of soil to be re-used.
- D. Section 31 2316.13 - Trenching: Excavating and Fill for utility trenches .
- E. Section 31-2319 - Dewatering.
- F. Section 32-1123 - Aggregate Base Course.
- G. Section 32-1313 - Concrete Paving.

1.03 DEFINITIONS

- A. Finish Grade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

- A. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2019.
- B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2012.
- C. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method; 2024.
- D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2012.
- E. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2008.
- F. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.
- G. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.
- H. Oregon Standard Specifications (OSS) - The Oregon Department of Transportation, ODOT/APWA Oregon Chapter Standard Specifications for Construction; 2021 Edition.

1.05 SUBMITTALS

- A. See Section 01 7000 - Shop Drawings, Product Data, Samples for submittal procedures.
- B. Materials Sources: Submit name of imported materials source.
- C. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used, including manufactured fill.
- D. Compaction Density Test Reports.

1.06 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- Fill Type Class A: Use native or common material excavated from within limits of the project, free from vegetation and other detrimental material and containing no frozen ground. Maximum particle size shall be 3 inches. Landscape Architect will make approval prior to placement. Compact to at least 95 percent of the maximum dry density, as determined by ASTM D 698.
- B. Granular Fill- Fill Type Class B: State Oregon Highway Department Use high quality, dense-grade, commercially available, 3/4" to 1"-0 crushed rock, with less than 5 percent passing the U.S. Standard No. 200 sieve, compact to at least 95 percent of the maximum dry density, as determined by ASTM D698 (Std. Proctor).
- C. Sand- Fill Type Class C: Clean sand; free of silt, clay, loam, friable or soluble materials, and organic matter.
 - 1. Graded in accordance with ASTM C136/C136M; within the following limits:
 - a. No. 200 sieve: Less than 5 percent passing.
- D. Drainrock Fill - Fill Type Class D: Use granular permeable material; coarse, clean, free draining open graded 1 inch to 2 inch minus crushed rock containing no fines or round rock, less than 2 percent passing the #200 sieve.
- E. Topsoil- Fill Type Class F: Friable loam, imported borrow.
 - 1. Graded.
 - 2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
 - 3. Soil analysis shall be performed to determine the following:
 - a. Soil PH
 - b. Soluble Salts
 - c. Excess Carbonate
 - d. Organic Matter
 - e. Nutrient readings for:
 - 1) Nitrogen, Phosphorus, Potassium
 - 2) Magnesium, Calcium, Sodium, Manganese, Sulfur, Zinc, Copper, Iron, Boron
 - f. Cation Exchange Capacity
 - g. Percent Based Saturation Sodium
 - h. Tests shall include analysis and interpretation of results. Soil testing methods shall be compliant with recognized agronomic testing standards for revegetation of disturbed sites.
 - i. Soil analysis shall determine if material meets ASTM D5268 requirements.
- F. Compost Fill: Shall be the result of the biological degradation and transformation of plant-derived materials under conditions designed to promote aerobic decomposition. The material shall be well composted, free of viable weed seeds, and stable with regard to oxygen consumptions and carbon dioxide generation. The compost shall have no visible free water and produce no dust when handled. It shall meet the following criteria:
 - 1. 100 percent passing thru 1/2 inch screen.
 - 2. pH shall between 6 and 8.
 - 3. Manufactured inert material (plastic, concrete, ceramics, metal, etc.) shall be less than 1.0 percent by weight.

4. Organic matter content shall be between 35 and 65 percent.
5. Soluble salt content shall be less than 6.0 mmhos/cm.
6. Germination (an indicator of maturity) shall be greater than 80%.
7. Submittal Requirements: Two 5 gallon buckets of the blended material for approval prior to installation.

2.02 ACCESSORIES

- A. Separation Geotextile Fabric: Non-biodegradable, **non-woven, permeable stabilization fabric, 5 oz/yd weight minimum.**
 1. Mean Average Roll Value (MARV) strength properties meeting the requirements of an AASHTO M 288-17 Class 2 geotextile.
 2. Flow Rate (ASTM D4491): 110 gpm/sf.
 3. Permittivity greater than 0.1 sec-1. The permittivity is required to reduce the risk of subgrade pumping during wet weather.
 4. Apparent opening size (AOS): 0.6 mm (max average roll value).
 5. Grab Strength (ASTM D 4632): 200 lbs minimum.
 6. Grab Elongation (ASTM D 4632): 50 percent.
 7. **Location: Under all Roadway, Parking/Drive, and Building Pad areas.**

2.03 SOURCE QUALITY CONTROL

- A. See Section 01-4000 - Quality Requirements, for general requirements for testing and analysis of soil material.
- 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. Verify that survey bench marks and intended elevations for the Work are as indicated.
- B. Identify required lines, levels, contours, and datum locations.
- C. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.
- D. Verify structural ability of unsupported walls to support imposed loads by the fill.
- E. Verify areas to be filled are not compromised with surface or ground water.

3.02 PREPARATION

- A. Scarify, compact and proof roll subgrade surface to a depth of 6 inches to identify soft spots. Proof roll in the presence of the Landscape Architect. Do not place any fill in the building zone until proof rolling has been performed and observed by the Architect.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with Fill Type B or Structural Fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to fill, place 4 inches of compacted granular structural backfill over footing subgrades to protect the footing subgrades from foot traffic and the elements. Maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING

- A. Fill 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 8 inches compacted depth.
- F. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- G. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- H. Correct areas that are over-excavated.
 - 1. Load-bearing foundation surfaces: Use Fill Type B, flush to required elevation, compacted to 95 percent of maximum dry density.
 - 2. Other areas: Use Fill Type B, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- I. Compaction Density Unless Otherwise Specified or Indicated:
 - 1. Under paving, structural slabs on grade, slabs-on-grade, structural slabs on grade, structural slabs on grade, similar construction, and structural slabs on grade: 95 percent of maximum dry density.
- J. Reshape and re-compact fills subjected to vehicular traffic.
- K. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Landscape Architect. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.04 FILL AT SPECIFIC LOCATIONS

- A. Use **general granular Fill (Type B)** unless otherwise specified or indicated.
- B. Fill at Retaining Wall Foundation:
 - 1. See note above regarding proof rolling preparation.
 - 2. Use Fill Type Class B.
 - 3. Fill up to subgrade elevations.
 - 4. Maximum depth per lift: 8 inches, compacted.
 - 5. Minimum thickness: 6 inches under footings, and 6 inches beyond the edges of all footings.
 - 6. Compact to minimum 95 percent of maximum dry density per ASTM D 698.
- C. Fill at Slab-on-Grade: Plaza
 - 1. Use Fill Type [Class B].
 - 2. Fill up to subgrade elevations.
 - 3. Maximum depth per lift: 8 inches, compacted.
 - 4. Minimum thickness: 8 inches.
 - 5. Compact to minimum 95 percent of maximum dry density per ASTM D1557.
- D. Over Subdrainage Piping at drainage areas as shown in drawings - behind retaining walls:
 - 1. Drainage fill, Fill Type Class D .
 - 2. Cover drainage fill with Class B.
 - 3. Fill up to subgrade elevation as shown in drawings.
 - 4. Compact to 90 percent of maximum dry density.
- E. At Biofiltration Areas:
 - 1. Use Fill Type Class F, blended with 50% Compost Fill. Minimum depth: 18 inches or as noted on Drawings.
 - 2. Use Fill Type D, Drainrock Fill, below Amended Soil F, depth as detailed.
 - 3. Fill up to finish grade elevations.
 - 4. Compaction not required.
 - 5. See Section 31-2200 for topsoil placement.
- F. At Lawn Areas:

1. Use Top Soil Fill Type Class F with blended 50% Compost Fill.
 2. Depth: Areas to be Seeded with Grass: 6 inches.
 3. Depth: Areas to be Sodded: 4 inches.
 4. Compact to [65] percent of maximum dry density.
- G. At Shrub Areas :
1. Use Fill Type Class F, with blended 50% Compost Fill.
 2. Depth: 18 inches minimum or as noted on Drawings.
 3. Compact to 65 percent of maximum dry density.
 4. See Section 31-2200 for topsoil placement.

3.05 TOLERANCES

- A. Top Surface of General Filling: Plus or minus 1/2 inch from required elevations.
- B. Top Surface of Filling Under Paved Areas: Plus or minus 1/4 inch from required elevations.

3.06 FIELD QUALITY CONTROL

- A. See Section 01 4500 - Quality Control, for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
- C. When using the nuclear method of ASTM D6938, the gauge shall be field calibrated according to ASTM standards.
- D. For general fill, Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 698 ("standard Proctor").
- E. For "Structural Fill" evaluate results in relation to compaction curve determined in accordance with ASTM D1557 ("modified proctor").
- F. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- G. Frequency of Tests: For structural fill, tests shall be taken each day of production.

3.07 CLEANING

- A. See Section 01 7400 - Cleaning for construction waste management and disposal, for additional requirements.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

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SECTION 31-4100 SHORING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Shoring and bracing of trenches and other excavation as required to furnish safe and acceptable working conditions, protect existing and new structures, utilities, vegetation and maintaining existing slopes, fills and open excavations.
- B. The Contractor shall have sole responsibility to determine the construction means and methods required to satisfy the requirements of this section. The method of shoring and bracing may include the use, or the combination of sheeting, shoring, bracing, sloping, sliding trench shield or other methods to accomplish the work.
- C. Shoring and bracing shall also include other means and procedures such as draining and recharging groundwater and routing and disposing of surface runoff, required to maintain the stability of soils.

1.02 RELATED SECTIONS

- A. Section 31-2316.13 - Trenching
- B. Section 31-2319 - Dewatering

1.03 QUALITY ASSURANCE

- A. The method of protection shall be according to the Contractor's design.
- B. The Contractor shall design sheeting, shoring, bracing, etc. in accordance with Oregon Occupational Safety and Health Act (OSHA).
- C. The Contractor's design shall furnish a safe place of work pursuant to OSHA provisions of 1970 and the subsequent amendments and regulations and provide for protection of the work, structures and other improvements.

1.04 SHORING AND BRACING SAFETY PLAN

- A. For trenches and excavations 5 feet or more in depth, the Contractor shall have a detail plan design of sheeting, shoring, bracing, sloping, etc., available at the work site for review by the Engineer and OSHA representative, to be made for worker protection from hazards of caving ground.

1.05 CONTRACTOR'S SUPERVISOR

- A. The Contractor shall appoint a qualified supervisor, who shall be responsible for determining the shoring system that shall be used, depending on local soil type, water table, and so on.
- B. This supervisor shall have experience in the direction of such excavation and shoring work.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 GENERAL

- A. Shoring and bracing shall be installed and maintained continuously and not be limited to normal working hours.
- B. The construction of sheeting, shoring and bracing shall not disturb the state of soil adjacent to the trench of excavation or below the excavation bottom. Sheeting, shoring and bracing shall be removed after placement and compaction of initial backfill except otherwise specified.

3.02 STRUCTURE AND EXISTING PIPING

- A. The Contractor shall provide support of existing and new structures where necessary. Existing piping shall be protected with shoring and bracing where excavation could expose the pipe and/or cause damage to the pipe.

3.03 DAMAGES

- A. Any damages to new or existing structures occurring through settlements, water or earth pressures, or other causes due to failure or lack of sheeting, shoring or bracing, or through negligence or fault of the Contractor shall be repaired by the Contractor at their own expense.

END OF SECTION

**SECTION 32-1120
SUBBASE AND AGGREGATE BASE COURSES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aggregate base course.

1.02 RELATED REQUIREMENTS

- A. Section 31-2200 - Grading.
- B. Section 31-2316.13 - Trenching.
- C. Section 31-2323 - Fill.
- D. Section 32-1313 - Concrete Paving.

1.03 REFERENCE STANDARDS

- A. AASHTO M 147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base, and Surface Courses; 2017 (Reapproved 2021).
- B. 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; 2010.
- C. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2019.
- D. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017 (Reapproved 2025).

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements for submittal procedures.
- B. Source Quality Control Submittals: Submit name of imported materials source.
- C. Field Quality Control Submittals: Submit compaction density testing results.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Aggregate Storage: Prevent material intermixing, contamination, and deterioration.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Aggregate Base Course:
 - 1. Aggregate Fill, Class B - Roadways, Curbs, Sidewalks
 - a. 3/4" or 1"-0 dense-graded aggregate
 - b. Comply with ODOT TM208.

2.02 SOURCE QUALITY CONTROL

- A. See Section 01-4000 - Quality Requirements for additional requirements.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the Work.
- D. For aggregate materials using classification complying with ASTM D2487, provide testing before delivery to site.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.
- B. Verify substrate has been inspected, and gradients and elevations are correct and dry.

3.02 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and recompact.
- B. Do not place aggregate on soft, muddy, or frozen surfaces.
- C. Grade excavated and filled substrate; see Section 31-2200.
- D. Backfill and compact trench excavations; see Section 31-2316.13.
- E. Backfill and compact subgrade fill; see Section 31-2323.

3.03 PLACEMENT

- A. Under Portland Cement Concrete Paving:
 - 1. Aggregate Base Compacted Thickness: According to design drawings.
 - 2. Compact to 95 percent of maximum dry density.
- B. Place course in maximum 4 inch layers and roller compact to specified density.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.04 TOLERANCES

- A. Variation From Design Elevation: Within 1/2 inch.
- B. Flatness: Maximum variation of 1/2 inch measured with 10 foot straight edge.

3.05 CLEANING

- A. See Section 01-7000 - Execution and Closeout Requirements for additional requirements.
- B. Stockpile unused materials neat and compact.

END OF SECTION

SECTION 32-1313 CONCRETE PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete sidewalks, extruded curbs and concrete ramps, stair steps, extruded curbs and concrete ramps, integral curbs, extruded curbs and concrete ramps, and extruded curbs and concrete ramps.

1.02 RELATED REQUIREMENTS

- A. Section 03-3000 - Cast-in-Place Concrete.
- B. Section 31-2200 - Grading: Preparation of site for paving and base and preparation of subsoil at pavement perimeter for planting.
- C. Section 31-2323 - Fill: Compacted subbase for paving.
- D. Section 32-1123 - Aggregate Base Courses: rock base course.
- E. Section 32-1713 - Parking Bumpers: Precast concrete parking bumpers.
- F. Section 32-1723 - Pavement Markings.
- G. Section 03 3000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2024.
- B. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2024.
- C. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2025.
- D. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2024a.
- E. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types); 2023.
- F. ASTM D1752 - Standard Specification for Preformed Sponge Rubber, Cork, and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction; 2018 (Reapproved 2023).

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on joint filler, admixtures, and curing compound.
- C. Design Data: Indicate pavement thickness, designed concrete strength, reinforcement, and typical details.

PART 2 PRODUCTS

2.01 PAVING ASSEMBLIES

- A. Comply with applicable requirements of ACI 301.
- B. Design paving for parking and light duty commercial vehicles.
- C. Concrete Sidewalks, Concrete Curbs, and Curb Gutters: 3,000 psi 28 day concrete, 4 inches thick, Portland cement, exposed aggregate finish.
- D. Parking Area Pavement: 4,000 psi 28 day concrete, 6 inches thick, #4 reinforcing at 10 inches on center each way, wood float finish.

2.02 FORM MATERIALS

- A. Wood form material, profiled to suit conditions.

- B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D1751) or sponge rubber or cork (ASTM D1752).
 - 1. Thickness: 1/2 inch.

2.03 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) yield strength; deformed billet steel bars; unfinished or as specified in plans.

2.04 CONCRETE MATERIALS

- A. Obtain cementitious materials from same source throughout.
- B. Concrete Materials: As specified in Section 03-3000.

2.05 ACCESSORIES

- A. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.
 - 1. Manufacturers:
 - a. Nomaco, Inc; Nomaflex Expansion Joint Filler with Void Cap Option:
www.nomaco.com/#sle.
 - b. Nomaco, Inc; Fastflex Slab Isolation Joint Filler with Tear-Off Strip:
www.nomaco.com/#sle.
 - c. Substitutions: See Section 01-6000 - Product Requirements.

2.06 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
- D. Concrete Properties:
 - 1. Compressive strength, when tested in accordance with ASTM C39/C39M at 28 days; 3,500 psi.
 - 2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
 - 3. Calcined Pozzolan Content: Maximum 10 percent of cementitious materials by weight.
 - 4. Silica Fume Content: Maximum 5 percent of cementitious materials by weight.
 - 5. Water-Cement Ratio: Maximum 40 percent by weight.
 - 6. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
 - 7. Maximum Slump: 4 inches.
 - 8. Maximum Aggregate Size: 3/4 inch.

2.07 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.02 SUBBASE

- A. See Section 32-1123 for construction of base course for work of this Section.

3.03 PREPARATION

- A. Moisten base to minimize absorption of water from fresh concrete.
- B. Coat surfaces of manhole frames with oil to prevent bond with concrete pavement.

- C. Notify Landscape Architect minimum 24 hours prior to commencement of concreting operations.

3.04 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.05 REINFORCEMENT

- A. Place reinforcement at midheight of slabs-on-grade.
- B. Place reinforcement to achieve pavement and curb alignment as detailed.

3.06 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.
- C. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

3.07 EXTRUDED CURBS

- A. The pavement shall be dry and cleansed of loose or deleterious Materials prior to curb placement.
- B. Extruded cement concrete curb shall be placed, shaped and compacted true to line and grade with an approved extrusion machine. The extrusion machine shall be capable of shaping and thoroughly compacting the concrete to the required cross section.
- C. The cement concrete mixture shall be homogeneously mixed to conform with above when delivered to the hopper of the curb machine. Each hopper load of cement concrete shall be run through the curb laying machine, adjusted properly to form and compact the cement mix for the concrete curb.
- D. Joints in the extruded cement concrete curb shall be spaced at 15-foot intervals or shall match existing transverse joints or cracks in existing pavement. Joints shall be cut vertically.

3.08 JOINTS

- A. Align curb, gutter, and sidewalk joints.
- B. Place 3/8 inch wide expansion joints at 20 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.
- C. Provide scored joints.
 - 1. At 3 feet intervals, unless shown otherwise.
 - 2. Between sidewalks and curbs.
 - 3. Between curbs and pavement.
- D. Saw cut contraction joints 3/16 inch wide at an optimum time after finishing. Cut 1/3 into depth of slab.

3.09 FINISHING

- A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.
- B. Curbs and Gutters: Light broom, texture parallel to pavement direction.

3.10 TOLERANCES

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

3.11 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01-4000 - Quality Requirements.
 - 1. Provide free access to concrete operations at project site and cooperate with appointed firm.
 - 2. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
 - 3. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
- B. Compressive Strength Tests: ASTM C39/C39M; for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cu yd or less of each class of concrete placed.
 - 1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
 - 2. Perform one slump test for each set of test cylinders taken.
- C. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.12 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian traffic over pavement for 7 days minimum after finishing.

END OF SECTION

**SECTION 32-1710
PARKING BUMPERS AND MANUFACTURED TRAFFIC-CALMING DEVICES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Parking bumpers.

1.02 RELATED REQUIREMENTS

- A. Section 32-1216 - Asphalt Paving.
- B. Section 32-1313 - Concrete Paving.
- C. Section 32-1723 - Pavement Markings.

1.03 REFERENCE STANDARDS

- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2024.
- B. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2024a.
- C. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide unit configuration and dimensions.

1.05 FIELD CONDITIONS

- A. Ambient Conditions: Do not apply adhesive when temperature is outside manufacturer's recommendations, when pavement is wet, or anticipating rain within 24 hours.

PART 2 PRODUCTS

2.01 PARKING BUMPERS

- A. Nominal Size: 6 inches high, 8 inches wide, 6 feet long.
- B. Profile: Manufacturer's standard.
- C. Anchoring Holes: Two, spaced equally.
- D. Precast Concrete:
 - 1. Cement: Portland Type I - Normal in accordance with ASTM C150/C150M.
 - 2. Aggregate: Lightweight in accordance with ASTM C33/C33M.
 - 3. Reinforcement: Deformed, unfinished steel bars in accordance with ASTM A615/A615M.
 - 4. Color: Natural.

2.02 ACCESSORIES

- A. Anchors: According to manufacturer's recommendations.
- B. Adhesive: Epoxy type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Verify that asphalt pavement is ready to receive work, and pavement markings are dry.
 - 1. See Section 32-1216.
 - 2. See Section 32-1723.

3.02 PREPARATION

- A. Surface Preparation: Clean pavement surface and surrounding area.

3.03 INSTALLATION

- A. Install units without damage to shape or finish. Replace or repair damaged units.

- B. Install units in alignment with adjacent work, as indicated on drawings.
- C. Concrete Pavement: According to manufacturer's recommendations.
 - 1. Position unit in place.
 - 2. Drill through anchoring holes and full depth of asphalt pavement.
 - 3. Screw anchor bolt through unit and into lag shield.

3.04 ADJUSTING

- A. Limit adjustments and repositioning units within first hour of adhesive application.

3.05 CLEANING

- A. See Section 01-7000 - Execution and Closeout Requirements for additional requirements.
- B. Remove excessive adhesive immediately after application.

3.06 PROTECTION

- A. Protect installed parking bumper from disturbance for 4 hours after adhesive application.

END OF SECTION

**SECTION 32-1723
PAVEMENT MARKINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Painted pavement markings.

1.02 RELATED REQUIREMENTS

- A. Section 32-1313 - Concrete Paving.
- B. Section 32-1713 - Parking Bumpers.

1.03 REFERENCE STANDARDS

- A. AASHTO MP 24 - Standard Specification for Waterborne White and Yellow Traffic Paints; 2015 (Reapproved 2020).

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements for submittal procedures.
- B. Shop Drawings: Indicate traffic management plan with barricades, cones, and temporary markings.
- C. Product Data: Manufacturer's data sheets on each product to be used.
- D. Certificates: Submit for each batch stating compliance with specified requirements.
 - 1. Painted pavement markings.
- E. Manufacturer's Instructions:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver paint in containers of at least 5 gallons accompanied by batch certificate.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.06 FIELD CONDITIONS

- A. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.

1.07 SEQUENCING

- A. Allow new pavement surfaces to cure for a period of not less than 14 days before application of markings.

PART 2 PRODUCTS

2.01 PAINTED PAVEMENT MARKINGS

- A. Comply with State of Oregon Highway Department standards.
- B. Painted Pavement Markings: As indicated on drawings.
 - 1. Marking Paint: In accordance with AASHTO MP 24.
 - a. Parking Lots: White.
 - b. Symbols and Text: White.
 - c. Wheelchair Symbols: Provide blue and white.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Verify that pavement is dry and ready for installation.
- B. Notify Landscape Architect of unsatisfactory conditions before proceeding.

3.02 PREPARATION

- A. Establish survey control points for locating and dimensioning of markings.
- B. Place barricades, warning signs, and flags as necessary to alert approaching traffic.
- C. Clean surfaces prior to installation.
 - 1. Remove dust, dirt, and other debris.
- D. Apply paint stencils by type and color at necessary intervals.

3.03 INSTALLATION

- A. General:
 - 1. Position pavement markings as indicated on drawings.
 - 2. Field location adjustments require approval of Landscape Architect.
- B. Painted Pavement Markings:
 - 1. Apply in accordance with manufacturer's instructions.
 - 2. Apply in accordance with State of Oregon Highway Department standards.
 - 3. Marking Paint: Apply uniformly, with sharp edges.
 - a. Applications: One coat.
 - b. Wet Film Thickness: 0.015 inch, minimum.
 - c. Stencils: Lay flat against pavement, align with striping, remove after application.

3.04 CLOSEOUT ACTIVITIES

- A. See Section 01-7800 - Closeout Submittals for additional requirements.

3.05 PROTECTION

- A. Prevent approaching traffic from crossing newly applied pavement markings.
- B. Replace damaged or removed markings at no additional cost to Owner.
- C. Preserve survey control points until pavement marking acceptance.

END OF SECTION

SECTION 32-3300 SITE FURNISHINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Bollards.
- B. Bike rack.
- C. ADA site signage.

1.02 RELATED REQUIREMENTS

- A. Section 03-3000 - Cast-in-Place Concrete: Bollard infill and underground encasement.

1.03 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2024.

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's specifications and descriptive literature, installation instructions, and maintenance information.
- C. Shop Drawings: Indicate plans for each unit or group of units, elevations with model number, overall dimensions, construction, and anchorage details.

1.05 WARRANTY

- A. See Section 01-7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's warranty against defects in materials or workmanship for ductile iron castings for a period of 10 years from Date of Substantial Completion.

PART 2 PRODUCTS

2.01 TYPE OF SIGNS

- A. ADA Parking R7-8, one (1) each required.
 - 1. White, retroreflective sheeting (background).
 - 2. Green, retroreflective sheeting (legend).
 - 3. White on blue, retroreflective sheeting (symbol).
 - 4. Sign blank - sheet aluminum.
 - 5. Size: 12" X 18", handicap reserved parking.
 - 6. Location: Mount to ADA Parking R7-8 sign post according to ODOT Standards for Accessible Parking Places, 2023 edition or current.
- B. Van Accessible R7-8P, one (1) each required.
 - 1. White, retroreflective sheeting (background).
 - 2. Green, retroreflective sheeting (legend).
 - 3. Sign blank - sheet aluminum.
 - 4. Size: 18" X 9", van accessible.
 - 5. Location: Mount to ADA Parking R7-8 sign post according to ODOT Standards for Accessible Parking Places, 2023 edition or current.
- C. ADA Access Aisle No Parking OR7-9, (one) each required.
 - 1. White, retroreflective sheeting (background).
 - 2. Red, retroreflective sheeting (legend).
 - 3. White on blue, retroreflective sheeting (symbol).
 - 4. Sign blank - sheet aluminum.
 - 5. Size: 12" X 18", access aisle no parking.

6. Location: Mount to ADA Parking R7-8 sign post according to ODOT Standards for Accessible Parking Places, 2023 edition or current.
- D. ADA Access Aisle No Parking Arrow OR7-9a, (one) each required. Mount to Access Aisle No Parking Sign Post.
 1. White, retroreflective sheeting (background).
 2. Red, retroreflective sheeting (legend).
 3. White on blue, retroreflective sheeting (symbol).
 4. Sign blank - sheet aluminum.
 5. Size: 8" X 12", access aisle no parking arrow.
 6. Location: Mount to ADA Parking R7-8 sign post according to ODOT Standards for Accessible Parking Places, 2023 edition or current.
- E. Materials for signs shall conform to ODOT/APWA, Section 02910 of the Standard Specification for Construction, 2021 Edition, or current.
- F. Sign Accessories
 1. Perforated Steel Square Tube Sign Supports: 2.25" x 2.25" x 0.105" square, 12 gauge, galvanized steel finish. Holes at 1-inch on center, on all four sides.
 - a. Telspar or approved equal.
 - b. Contractor to provide all compatible fittings, accessories, nuts and bolts to complete sign installation.

2.02 BOLLARDS

- A. Removeable Bollards:
 1. Material: Steel; ASTM A36; 25 percent recycles content.
 2. Model: Reliance Foundry; R-7911
 3. Height: 36 inches
 4. Diameter: 6-1/2 inches
 5. Weight: 69 lbs.
 6. Design: Cylindrical with rounded top.
 7. Finish: Polyester powder coat over epoxy primer.
 8. Color: Black.
 9. Installation: Removeable, new concrete, removable mount with hinged lid. Oner to provide marine-grade padlock.
 10. Quantity: As shown on plans.
- B. Bollard Covers: Cast iron, mounted over new post.
 1. Lighted Bollards: fixed, AC hardwired light bollards.
 - a. Products:
 - 1) Reliance Foundry Co. Ltd.; Cresnet Ward Lighted Bollard R-6501
 - (a) Height: 40-3/16 inch
 - (b) Base Diameter: 14-1/8 inch
 - (c) Weight: 187 lbs.
 - (d) Design: Cylindrical and fluted, with a rounded top and LED ring.
 - (e) Color: Black textured semi gloss.
 - (f) Lamp: LED; 50,000 hour L70 lifetime
 - (g) Housing: Polyethylene Lens
 - (h) Lighting Distribution: 100 VAC to 240 VAC
 - (i) Frequency: 50/60 Hz
 - (j) Quantity: As shown on plans.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify proper installation of mounting surfaces, preinstalled anchor bolts, and other mounting devices; and ready to receive site furnishing items.

- B. Do not begin installation until unacceptable conditions are corrected.

3.02 INSTALLATION

- A. Install site furnishings in accordance with approved shop drawings, and manufacturer's installation instructions.
- B. See Section 03-3000 for bollard infill and underground encasement.
- C. Conform to ODOT/APWA, Section 00930 of the Standard Specifications for Construction, 2018 Edition.
- D. Provide level mounting surfaces for site furnishing items.

END OF SECTION

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**SECTION 32-3313
SITE BICYCLE RACKS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Exterior bicycle racks.

1.02 RELATED REQUIREMENTS

- A. Section 32-1313 - Concrete Paving: Mounting surface for bicycle racks.

1.03 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2024.
- C. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.

1.04 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Handle racks with sufficient care to prevent scratches and other damage to the finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Exterior Bicycle Racks: Basis of Design:
 - 1. Reliance Foundry Co. Ltd.; Phone: 604-547-0460; www.reliance-foundry.com/bike-parking
 - a. Model: R-8224
 - 1) Height: 31-1/2 inch
 - 2) Width: 35-1/2 inch
 - 3) Weight: 32 lbs.
 - 4) Design: Circle
 - 5) Metal: Steel
 - 6) Installation: Concrete Embedded.
 - 7) Color: Textured Black.
- B. Substitutions: See Section 01-6000 - Product Requirements.

2.02 BICYCLE RACKS

- A. Exterior Bicycle Racks: Device allows user-provided lock to simultaneously secure one wheel and part of the frame on each bicycle parked or racked.
 - 1. Style: Round loop.
 - 2. Capacity: Two bicycles.
 - 3. Quantity: 3 racks.
 - 4. Mounting, Ground: Concrete Embedded.
 - 5. Finish: Powder coat, maintenance-free and weather-resistant.
 - 6. Color: Black.

7. Accessories: In-ground grout cover.
- B. Materials:
 1. Pipe: Carbon steel, ASTM A53/A53M, Schedule 40.
 2. Bar, Round and Flat, Carbon Steel: ASTM A36/A36M.
 3. Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions.

2.03 ACCESSORIES

- A.
- B. Bicycle Pump with Gauge:
 1. Pump Material: Stainless steel; ASTM A666/A666M, Type 304.
 2. Integrated Air Hose: High-pressure rubber, exterior-grade hose with triple-braided steel wire core.
 3. Attached Tools: Permanently attached to pump body with 3/16 inch braided stainless steel cable.
 - a. Steel-core tire lever.
 - b. 5/8 inch box wrench.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive bicycle racks.
- B. If substrate preparation is the responsibility of another installer, notify Landscape Architect of unsatisfactory conditions before proceeding.
- C. Do not begin installation until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. Ensure surfaces to receive bicycle racks are clean, flat, and level.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install level, plumb, square, and correctly located as indicated on drawings.
- C. In-Ground Anchor Installation:
 1. Prepare holes in size according to manufacturer's instructions.
 2. Place anchoring bolts through the holes in pipe.
 3. Lower rack into holes, ensuring the bottom of lower bends are at least 1-1/2 inch from the ground.
 4. Place concrete.
 5. Level rack before concrete sets.
 6. Support until dry.

3.04 CLEANING

- A. Clean installed work to like-new condition. Do not use cleaning materials or methods that could damage finish.

3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

**SECTION 32-8423
LANDSCAPE IRRIGATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe and fittings, valves, sprinkler heads, emitters, bubblers, and accessories.
- B. Control system.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series); 2025a.
- B. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems; 2012 (Reapproved 2018).

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the work with site backfilling, landscape grading and delivery of plant life.
- B. Preinstallation Meeting: Convene one week prior to commencing work of this Section.

1.05 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide component and control system and wiring diagrams.
- C. Shop Drawings: Indicate piping layout to water source, location of sleeves under pavement, location and coverage of sprinkler heads, components, plant and landscaping features, site structures, schedule of fittings to be used.
- D. Operation and Maintenance Data:
 - 1. Provide instructions for operation and maintenance of system and controls, seasonal activation and shutdown, and manufacturer's parts catalog.
 - 2. Provide schedule indicating length of time each valve is required to be open to provide a determined amount of water.
- E. Record Documents: Record actual locations of all concealed components piping system.
- F. Maintenance Materials: Provide the following for Owner's use in maintenance of project.
 - 1. See Section 01-6000 - Product Requirements, for additional provisions.
 - 2. Extra Sprinkler Heads: One of each type and size.
 - 3. Extra Valve Keys for Manual Valves: One.
 - 4. Extra Valve Box Keys: One.
 - 5. Extra Valve Marker Keys: One.
 - 6. Wrenches: One for each type head core and for removing and installing each type head.

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum 3 years of experience.

PART 2 PRODUCTS

2.01 IRRIGATION SYSTEM

- A. Electric solenoid controlled underground irrigation system, with low point self drain.
 - 1. All components shall be from same manufacturer as applicable.
 - 2. Refer to Drawings.
- B. Manufacturers:
 - 1. Rain Bird Sales, Inc: www.rainbird.com/#sle.

2. Toro Company: www.toro.com/#sle.
3. Hunter Industries; www.hunterindustries.com.
4. Substitutions: See Section 01-6000 - Product Requirements.

2.02 PIPE MATERIALS

- A. PVC Pipe: ASTM D2241; 200 psi pressure rated upstream from controls, 160 psi downstream; solvent welded sockets.
- B. Fittings: Type and style of connection to match pipe.
- C. Solvent Cement: ASTM D2564 for PVC pipe and fittings.
- D. Polyethylene Pipe and Fittings: Manufactured from virgin polyethylene in accordance with ASTM D 2239.
 1. Fittings: Manufactured in accordance with ASTM D 2609, PVC type I.
- E. Sleeve Material: PVC.

2.03 OUTLETS

- A. Outlets: Brass construction.
- B. Spray Type Sprinkler Head: Pop-Up head with stainless steel retract spring.
- C. Bubbler: Adjustable outlet and 2 plastic inlet filter screens to prevent clogging. The bubbler shall have a 1/2 inch female thread inlet for connecting to the piping system riser.
- D. Nozzles:
 1. All sprinklers shall have a matched precipitation rate (MPR) plastic or brass nozzle with adjusting screw capable of regulating the radius and flow.
 2. The nozzle shall be constructed of UV-resistant plastic. The radius adjustment screen shall be constructed of stainless steel.
 3. Nozzles shall have precipitation rates metered across sets and across patterns.
 4. The nozzle shall accept a non-clogging filter screen to allow for radius adjustment and also shall accept a pressure compensating screen.
- E. Quick Coupler: Two-piece type, same size as line size. The valve body shall be constructed of red brass. The cover shall be a durable, self-closing rubber cover. The valve shall be opened and closed by a brass key of the same manufacturer. The valve throat shall have a key-way with detent positions for regulating water flow.

2.04 VALVES

- A. Valves: Hydraulic; normally open; hydraulic tubing, including required fittings and accessories.
- B. Backflow Preventer: Backflow prevention shall meet current Oregon and local jurisdiction code requirements. See Section 33-1200 Water Utility Distribution Equipment.
- C. Gate Valves: Bronze construction non-rising stem.
- D. Ball Valves: NSF-61 certified, PVC construction, PTFE seat with double O-ring stem. Asahi 21 Ball Valve x 2" True Union SOC/THRD PVC Viton.
 1. Max. psi rating: 230 psi
- E. Accessories: Locking Valve Box and Cover.

2.05 CONTROLS

- A. Controller: Automatic controller, microprocessor solid state control with visible readout display, temporary override feature to bypass cycle for inclement weather, timer for a 24 station system, programmable for 7 days in quarter hour increments, with automatic start and shutdown.
- B. Wire Conductors: Color coded.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify location of existing utilities.

- B. Verify that required utilities are available, in proper location, and ready for use.

3.02 PREPARATION

- A. Piping layout indicated is diagrammatic only. Route piping to avoid plants, ground cover, and structures.
- B. Layout and stake locations of system components.
- C. Review layout requirements with other affected work. Coordinate locations of sleeves under paving to accommodate system.

3.03 TRENCHING

- A. Trench and backfill in accordance with Section 31-2316 and Section 31-2323.
- B. Trench to accommodate grade changes and slope to drains.
- C. Maintain trenches free of debris, material, or obstructions that may damage pipe.

3.04 INSTALLATION

- A. Install pipe, valves, controls, and outlets in accordance with manufacturer's instructions.
- B. Connect to utilities.
- C. Set outlets and box covers at finish grade elevations.
- D. Provide for thermal movement of components in system.
- E. Use threaded nipples for risers to each outlet.
- F. After piping is installed, but before outlets are installed and backfilling commences, open valves and flush system with full head of water.

3.05 FIELD QUALITY CONTROL

- A. Prior to backfilling, test system for leakage at main piping to maintain 100 psi pressure for one hour.
- B. System is acceptable if no leakage or loss of pressure occurs and system self drains during test period.

3.06 BACKFILLING

- A. Provide 3 inch sand cover over piping.
- B. Backfill trench and compact to specified subgrade elevation. Protect piping from displacement.

3.07 SYSTEM STARTUP

- A. Prepare and start system in accordance with manufacturer's instructions.
- B. Adjust control system to achieve time cycles required.
- C. Adjust head types for full water coverage as directed.

3.08 CLOSEOUT ACTIVITIES

- A. Instruct Owner's personnel in operation and maintenance of system, including adjusting of sprinkler heads, adjustment to control system and seasonal (spring) startup and (fall) shutdown procedures.
- B. Use operation and maintenance data as basis for demonstration.

3.09 MAINTENANCE

- A. See Section 01-7000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.
- B. Provide one complete spring start-up and a fall shutdown by installer, at no extra cost to Owner.

END OF SECTION

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**SECTION 32-9119
LANDSCAPE GRADING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Topsoil placement.
- B. Finish grading.

1.02 RELATED REQUIREMENTS

- A. Section 31-2200 - Grading.
- B. Section 31-2316 - Excavation.
- C. Section 31-2323 - Fill.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1910.266 - Logging Operations; Current Edition.
- B. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017 (Reapproved 2025).
- C. ASTM D5268 - Standard Specification for Topsoil Used for Landscaping and Construction Purposes; 2023.

1.04 SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.
- B. Field Quality Control Submittals: Topsoil depth measurements.

1.05 FIELD CONDITIONS

- A. Place topsoil during dry weather.
- B. Ambient Conditions: Terminate work during hazardous environmental conditions in accordance with 29 CFR 1910.266.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Topsoil: Friable loam; imported borrow.
 - 1. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
 - 2. Acidity Range (pH): 5.5 to 7.5.
 - 3. Mechanical Analysis:
 - a. Sand: 70 to 85 percent.
 - b. Silt: 10 to 20 percent.
 - c. Clay: 10 to 15 percent.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify grading and intended elevations are as indicated on drawings.
- B. Verify absence of standing or ponding water.

3.02 PREPARATION

- A. Protect site features to remain, including bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs.
- B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size.
- C. Scarify surface to depth of 3 inches.

3.03 TOPSOIL PLACEMENT

- A. Uniformly distribute and spread topsoil.

- B. Place topsoil in areas where seeding, sodding, and planting as indicated on drawings.
- C. Place topsoil to the following compacted thicknesses:
 - 1. Areas Indicated Seeded with Grass: 6 inches.
 - 2. Areas Indicated as Sodded: 4 inches.
 - 3. Shrub Beds: 18 inches.
 - 4. Flower Beds: 12 inches.

3.04 FINISH GRADING

- A. Maintain profiles and contour of subgrade.
- B. Remove roots, weeds, rocks, and foreign material while spreading.
- C. Maintain uniform topsoil thickness.
- D. Lightly compact placed topsoil.
- E. Maintain stability of topsoil during inclement weather. Replace eroded topsoil.

3.05 CLEANING

- A. See Section 01-7000 - Execution and Closeout Requirements for additional requirements.
- B. Remove unused topsoil. Grade stockpile area to prevent standing water.

3.06 PROTECTION

- A. Protect from stormwater runoff and subsequent construction operations.

END OF SECTION

SECTION 32-9200 SEEDING

PART 1 GENERAL

0.01 SECTION INCLUDES

- A. Preparation of subsoil.
- B. Hydroseeding, mulching and fertilizer for seeded areas only.

0.02 RELATED REQUIREMENTS

- A. Section 31-2200 - Grading: Preparation of subsoil and placement of topsoil in preparation for the work of this section.
- B. Section 31-2323 - Fill: Topsoil and Compost material.

0.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 PRODUCTS

1.01 SEED MIXTURE

- A. Turf Seed Mixture: MicroGreen Turf Grass, by Sunmark Seeds International, Inc., Fairview, Oregon, or approved equal.
 - 1. 10 lbs. per 1,000 sq. ft. seeding rate:
 - a. Lolium perenne var. Turfnet / Perennial Ryegrass: 92.5 percent / wt.
 - b. Trifolium repens var. Microclover / Microclover: 7.5 percent / wt.

1.02 SOIL MATERIALS

- A. 50/50 Blend: Fill Type Class F with Compost Fill, as specified in Section 32-2323 - Fill.
- B. Biotic Soil Amendment, Amended Soil for Planting Areas:
 - 1. PermaMatrix Biotic Soil Amendment HYDRO.
 - a. Composition: Organics, Microbes, Mycorrhizae, Burlap/Straw Fiber, Plant Growth Aids:
 - 1) Organic Humic Compounds: 6.4 - 6.6 pH.
 - 2) Blended Fiber: NA pH.
 - 3) Charcoal (Biochar): 8.0 - 9.0 pH.
 - 4) EcoLive Mycorrhizae: 6.0 - 7.0 pH.
 - 5) Ecobiotics Microbial Suite: 6.5 - 6.7 pH.
 - 6) Water Storing Organic Polymer: 6.0 - 7.0 pH.
 - 2. Or approved equal. Substitutions: See Section 01-6000 - Product Requirements.

1.03 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.
- B. Fertilizer for Lawn Areas Only: Slow release; recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions, or as recommended by Seed Mixture manufacturer based upon soil analysis:
 - 1. Nitrogen: 14 percent.
 - 2. Phosphoric Acid: 18 percent.
 - 3. Soluble Potash: 12 percent.
- C. Edging:

1. 100% Recycled Plastic Composite board, by Bender Board Landscape Products, or equal.
 - a. Size: 2x4 typical, 4-foot diameter
 - b. Color: Redwood Brown
 - c. Supply stakes and accessories per manufacturer's installation requirements.
 - d. Locations:
 - 1) To separate grass areas from mulch / rock.
 - 2) See Drawings for additional locations.

1.04 TESTS

- A. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.
- B. Submit minimum 10 oz sample of topsoil proposed. Forward sample to approved testing laboratory in sealed containers to prevent contamination.
- C. Testing is not required if recent tests are available for imported topsoil. Submit these test results to the testing laboratory for approval. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

2.01 EXAMINATION

- A. Verify that prepared soil base is ready to receive the work of this Section.

2.02 PREPARATION

- A. Prepare subgrade in accordance with Section 31-2200.
- B. Place topsoil in accordance with Section 31-2200.
- C. Install edging at locations shown on Drawings.

2.03 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

2.04 HYDROSEEDING

- A. Mix seed, fertilizer and mulch with water to form a homogenous, uniform slurry and apply with a hydraulic seeder at a rate as specified for each seed mix. Apply evenly in two intersecting directions.
- B. Do not hydroseed area in excess of that which can be mulched on same day.
- C. Do not hydroseed when wind velocity is greater than 5 miles per hour at the site.
- D. Unused Loads: Once fertilizer is mixed into the slurry, no more than 30 minutes should lapse before it is applied to prevent fertilizer from burning the seed. If mixture, containing no fertilizer, remains in the tank for more than 8 hours it shall be removed from the job site at the contractor's expense.
- E. Immediately following seeding, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.
- F. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.
- G. Following germination, immediately re-seed areas without germinated seeds that are larger than 4 by 4 inches.

2.05 PROTECTION

- A. Identify seeded areas with stakes and string around area periphery. Set string height to 24 inches. Space stakes at 48 inches.

2.06 MAINTENANCE

- A. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition.
- B. Immediately remove clippings after mowing and trimming.
- C. Water to prevent grass and soil from drying out.
- D. Roll surface to remove minor depressions or irregularities.
- E. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.
- F. Immediately reseed areas that show bare spots.
- G. Protect seeded areas with warning signs during maintenance period.

END OF SECTION

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**SECTION 32-9300
PLANTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. New trees, plants, and ground cover.
- B. Mulch and Fertilizer.

1.02 RELATED REQUIREMENTS

- A. Section 31-2200 - Grading: Topsoil material.
- B. Section 31-2323 - Fill: Topsoil material.

1.03 DEFINITIONS

- A. Weeds: Refer to the current publication of Oregon's official noxious weed priority list at designated by the Oregon State Weed Board.
- B. Plants: Living trees, plants, and ground cover specified in this Section , and described in ANSI Z60.1.

1.04 REFERENCE STANDARDS

- A. ANSI/AHIA Z60.2 - American Standard for Nursery Stock; 2025.
- B. ANSI A300 - American National Standard for Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance - Standard Practices:
 - 1. Part 1 - 2017 Pruning.
 - 2. Part 2 - 2011 Soil Management.
 - 3. Part 3 - Supplemental Support Systems.
 - 4. Part 6 - 1012 Planting and Transplanting.

1.05 SUBMITTALS

- A. See Section 01-3000 - Administrative Requirements.

1.06 QUALITY ASSURANCE

- A. Nursery Qualifications: Company specializing in growing and cultivating the plants with three years documented experience.
- B. Non-native, Invasive Plant Species: Do not introduce, grow, or cultivate plant species that are non-native to the ecosystem of the project site, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.
 - 1. Comply with laws regulating non-native and invasive plant species in the State in which the Project is located.

1.07 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.08 SUBSTITUTIONS

- A. There shall be no additions, deletions, or substitution of plant material species without the written approval by the Architect.
- B. Substitutions of plant material shall be permitted only if approved by the Architect in writing, and if providing the substituted plant or plants are of value and character equal to those originally specified, and that substitutions are at no additional expense.
- C. Any substitution that has not been approved shall be removed and immediately replaced with the correct plant at the contractor's expense.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

- B. Protect and maintain plant life until planted.
- C. Deliver plant life materials immediately prior to placement. Keep plants moist.

1.10 FIELD CONDITIONS

- A. Do not install plant life when ambient temperatures may drop below 35 degrees F or rise above 90 degrees F.
- B. Do not install plant life when wind velocity exceeds 30 mph.

1.11 WARRANTY

- A. See Section 01-7800 - Closeout Submittals, for additional warranty requirements.
- B. Warranty: Include coverage throughout maintenance period; replace dead or unhealthy plants. See Drawings for maintenance requirements.
- C. Replacements: Plants of same size and species as specified, planted in the next growing season, with a new warranty commencing on date of replacement.

PART 2 PRODUCTS

2.01 PLANTS

- A. Plants: Species and size identified in plant schedule, grown in climatic conditions similar to those in locality of the work.

2.02 SOIL MATERIALS

- A. 50/50 Blend: Fill Type Class F with Compost Fill, as specified in Section 32-2323 - Fill.

2.03 SOIL AMENDMENTS

- A. Obtain a Soils Agronomy Report from approved soils laboratory:
 - 1. A & L Western Agricultural Laboratories; 10220 SW Nimbus Avenue, Building K-9, Portland, Oregon 97223; Phone 503-598-7702; Web: www.al-labs-west.com; Email: alportland@al-labs-west.com. or approved equal.
- B. Biotic Soil Amendment, Amended Soil for Planting Areas:
 - 1. PermaMatrix Biotic Soil Amendment HYDRO.
 - a. Composition: Organics, Microbes, Mycorrhizae, Burlap/Straw Fiber, Plant Growth Aids:
 - 1) Organic Humic Compounds: 6.4 - 6.6 pH.
 - 2) Blended Fiber: NA pH.
 - 3) Charcoal (Biochar): 8.0 - 9.0 pH.
 - 4) EcoLive Mycorrhizae: 6.0 - 7.0 pH.
 - 5) Ecobiotics Microbial Suite: 6.5 - 6.7 pH.
 - 6) Water Storing Organic Polymer: 6.0 - 7.0 pH.
 - b. Or approved equal. Substitutions: See Section 01 6000 - Product Requirements.
- C. Contractor shall adjust soil amendments per the results of the Soils Agronomy Report.

2.04 MULCH MATERIALS

- A. Mulch: Douglas Fir whole tree mulch, screened between 1/2" - 1" without fines, free of growth or germination inhibiting ingredients, as supplied by Lane Forest Products, Eugene, Oregon, or approved equal.
 - 1. Color: Orange-Brown.
 - 2. Depth: 3" min. or as noted on Drawings.
 - 3. See Drawings for locations.
- B. Rock Mulch: 3/8" pea gravel river rock, washed and without fines.

2.05 ACCESSORIES

- A. Wrapping Materials: Burlap.
- B. Stakes: Softwood lumber, pointed end.

- C. Plant Protectors: Rubber sleeves over cable to protect plant stems, trunks, and branches.
- D. Tree Protectors: Metal with galvanized rings.
- E. Weed Barrier: Rot resistant, water and air permeable polypropylene fabric or equivalent.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that prepared subsoil and planters are ready to receive work.
- B. Saturate soil with water to test drainage.
- C. Verify that required underground utilities are available, in proper location, and ready for use.

3.02 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after initial raking of topsoil.
- C. Mix thoroughly into upper 2 inches of topsoil.
- D. Lightly water to aid the dissipation of fertilizer.

3.03 PLANTING

- A. Notify Architect prior to planting for site inspection and approval of plant placement.
- B. Set plants vertical and place for best appearance.
- C. Remove non-biodegradable root containers.
- D. Set plants in pits or beds, partly filled with prepared plant mix, at a minimum depth of 6 inches under each plant. Remove burlap, ropes, and wires, from the root ball.
- E. Planting pits shall be of such depth that, when planted and settled, the crown of the plant shall be in the same relationship to finish grade as it did to the soil surface in original place of growth. Backfill soil mixture in 6 inch layers. Maintain plant life in vertical position.
- F. Saturate soil with water when the pit or bed is half full of topsoil and again when full.

3.04 PLANT SUPPORT

- A. Brace plants vertically with plant protector wrapped guy wires and stakes to the following:
 - 1. Tree Caliper: 1 inch; Tree Support Method: 1 stake with one tie
 - 2. Tree Caliper: 1 to 2 inches; Tree Support Method: 2 stakes with two ties

3.05 MAINTENANCE

- A. See Drawings for maintenance requirements.

END OF SECTION

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**SECTION 33-0500
SITE UTILITIES**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Potable Water Pipe and Pipe Appurtenances.
- B. Sanitary Sewer Pipe.
- C. Storm Drain Pipe.
- D. Manholes and Cleanouts.
- E. Inlets-Catch Basins.
- F. Irrigation Sleeves.
- G. Toning Wire and Warning Tape.

1.02 RELATED SECTION

- A. Site Clearing: Section 31-1000.
- B. Grading: Section 31-2316.
- C. Trenching: Section 31-2316.13
- D. Dewatering: Section 31-2319.
- E. Fill: Section 31- 2323.

1.03 SUBMITTALS

- A. Product Data: Pipe, pipe accessories/appurtenances, and other equipment.

PART 2 - PRODUCTS

2.01 POTABLE WATER PIPE AND PIPE APPURTENANCES

- A. Water Pipe
 - 1. General.
 - a. All pipe materials shall be National Sanitary Foundation, Standard 61 approved.
 - b. All pipe materials shall be American (domestic) made.
 - 2. Copper Pipe and Tube:
 - a. Application:
 - 1) Domestic water.
 - b. Pipe: ASTM B88.
 - 1) Underground Domestic Water, Type L soft annealed with no joints or type K hard tempered copper with silver soldered joints.
 - c. Fittings: Wrought copper solder-joint fittings, ANSI B16.22.
- B. Pipe Appurtenances.
 - 1. General
 - a. All appurtenances shall be National Sanitary Foundation Standard 61 approved.
 - b. All appurtenances shall be American (domestic) made.
 - c. Pipe appurtenances may include, but are not necessarily limited to the following:
 - 1) Fittings
 - 2) Valve and valve boxes
 - 3) Thrust blocking
 - 4) Double check detector and reduced pressure assemblies
 - 2. Fittings.
 - a. All fittings shall be sufficient strength to withstand all handling and load stresses. All fittings shall be of the same materials as the pipe unless otherwise specified.
Material joining the fittings to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

- b. Tapping Sleeve.
 - 1) Tapping sleeve shall be of the high pressure type having a wide body, made of corrosion resistant 304 stainless steel, which conforms to and reinforces the pipe.
 - 2) The sleeve shall have a Buna-N gasket with a hydromechanical activated lip captured in a recessed groove around the outlet. Sleeve shall be furnished with replaceable 304 stainless steel bolts, nuts and washers and a 3/4" stainless steel test plug in the outlet
 - 3) Ductile iron flanged outlet shall be indexed per MSS-SP60 to accept tapping valve.
 - 4) Tapping sleeve shall be Romac SST, Rockwell 662 or approved equal.
- 3. Couplings.
 - a. Cast Couplings.
 - 1) Transition and straight couplings shall have ductile-iron sleeve, end rings and resilient gaskets. Furnish with corrosion resistant, high-strength 316 stainless steel bolts, nuts and washers. Coupling shall be fusion-epoxy lined and coated.
 - 2) Transition and straight couplings shall be Smith Blair "441", Romac "501" or equal.
 - b. Cast Reducing Coupling.
 - 1) Reducing couplings shall have ductile-iron sleeve, end rings and resilient gaskets. Furnish with corrosion resistant, high strength 316 stainless steel bolts, nuts and washers. Coupling shall be fusion-epoxy lined and coated.
 - 2) Reducing couplings shall be Smith Blair "R441", Romac "XR501", or equal.
- 4. MJ Joint Restraint Device.
 - a. Joint restraints required at elbows and other fittings where indicated on the Drawings or required, shall be designed for the type of pipe being installed (PVC or ductile-iron). Restraints for use with PVC pipe shall conform to ASTM F 1674, Standard Test Method for Joint Restraint Projects for use with PVC pipe.
 - b. Device shall be cast from Grade 65-45-12 ductile-iron material in accordance with ASTM A 536 and shall consist of multiple gripping wedges incorporated into the following gland.
 - c. Device shall work with standard mechanical joint fittings and offer full deflection capabilities after installation. Device shall have a rated working pressure of at least twice that of the pipe.
 - d. MJ joint restraint devices shall be manufactured by EBAA Iron, Ford Meter Box Company (Uni-Flange) or equal.
- 5. Valve Boxes.
 - a. Cast iron traffic rated valve boxes and lids shall be furnished and installed with all buried gate valves.
 - b. Boxes shall be two-piece (top and base) adjustable length for varying installation conditions, with a slip type means of adjustment, and a top flange. Box shall be suited for valve size.
 - c. Shaft shall be 7 inch inside diameter. Cover shall be "pocket" type and lettered "WATER".
 - d. Shaft extensions shall be provided where required.
 - e. Boxes shall be Rich No. 931 or equal.
- 6. Thrust Blocking.
 - a. Reinforcement for concrete thrust blocking shall be deformed billet steel bars conforming to ASTM A 615, Grade 60.
 - b. Concrete for thrust blocking shall be Portland Cement concrete conforming to ASTM C 94, developing a 28 day compressive strength of at least 2,500 psi.
- 7. Potable Water Service Reduced Pressure Assembly
 - a. Materials.
 - 1) Main valve body: Ductile iron grade 65-45-12.

- 2) Coating: Fusion epoxy coated interior and exterior AWWA C550.
 - 3) Shut off valves: NRS resilient wedge gate valves AWWA C509
 - 4) Trim: Bronze.
 - 5) Elastomer disks: EPDM
 - 6) Spring: Stainless steel.
 - b. Physical Properties
 - 1) Size: Match service size.
 - 2) Mechanical working pressure: 175 psi.
 - 3) Hydrostatic test pressure: 350 psi.
 - 4) Temperature range: 32°F to 140°F.
 - 5) End connection: Flange ANSI B16.1 Class 125.
 - 6) Valve Setter: Mechanical joint by flange.
 - 7) Wye strainer.
 - c. Quality Assurance
 - 1) Oregon Health Division Approved.
 - 2) UL Approved.
 - 3) FM Approved.
 - d. Manufacturer
 - 1) Febco, Model 880.
 - 2) Approved equivalent.
8. Fiberglass Double Check Detector and Reduced Pressure Assembly Enclosure.
- a. The enclosure, certified to ASSE 1060, shall be of minimum 1/8" thick Thixotropic polyester resin reinforced with fiberglass strand. Exterior will be finished with UV inhibited isophthalic polyester gel coat, buffed to a smooth finish. Insulations shall be minimum 1-1/2" thick (R10), uni-cellular, non-wicking, polyisocyanate, frothed or sprayed in place (not glued or pinned). Drains shall be sized for full port backflow discharge and designed for "one way" exit, inhibiting intrusion of debris and/or vermin. Enclosure shall be anchored to a concrete slab from within the enclosure with stainless steel anchors and be lockable gas spring flip top design and feature both front and rear removable access doors, for maintenance access through the enclosure without removal of the entire unit.
 - b. Physical Properties.
 - 1) Minimum 18 gauge construction.
 - 2) Structural unicellular installation.
 - 3) Lockable.
 - 4) Relief ports at enclosure grade level.
 - 5) R10 Minimum.
 - c. Manufacturer.
 - 1) Double check detector assembly, Hotbox Model LB8FEM.
 - 2) Double check assembly, Hotbox Model LB4FEM.
 - 3) Approved equivalent.

2.02 STORM DRAIN PIPE AND FITTINGS - FOUNDATION DRAINS, STORM DRAINS AS INDICATED

- A. General. All pipe and fittings shall be American (domestic) made.
- B. Polyvinyl Chloride (PVC) Pipe.
 1. Nominal pipe sizes 4 inch through 15 inch.
 - a. PVC pipe shall meet the requirements of ASTM D 3034, SDR 35, PSM Poly (Vinyl Chloride) Sewer Pipe and Fittings.
 - b. PVC pipe shall be furnished with an integral bell gasketed joint. Joint shall conform to ASTM D 3212 with an elastomeric ring type gasket conforming to ASTM F 477.
 - c. Furnish in standard lengths.

- d. PVC pipe shall be manufactured by J-M Manufacturing Company, Pacific Western Extruded Plastics Company or equal.
- 2. Fittings.
 - a. General. All fittings shall be of sufficient strength to withstand all handling and load stresses. All fittings shall be of the same materials as the pipe unless otherwise specified. Material joining the fittings to the pipe shall be free from cracks and shall adhere tightly to each joining surface. Use the same type of joints on all fittings that are used on the sanitary sewer gravity main pipe.
 - b. PVC Fittings.
 - 1) Tee-Wyes.
 - (a) Provide tee-wye in the sanitary sewer gravity main for service lateral connections. Tee-wye shall not be closer than 12 inches to any joint or bell of main line sewer main which is 12 inches or less in diameter.
 - (b) Push-on tee-wye fittings shall be as manufactured by GPK Industries, or equal.
 - 2) Wyes and Elbows.
 - (a) Provide wyes and elbows for cleanouts and in service laterals as directed by the Engineer.
 - (b) Push-on wyes and elbow fittings shall be as manufactured by GPK Industries, or equal.
 - 3) End Plugs.
 - (a) Provide end plugs for service laterals, sanitary sewer main stubs from manholes and wye fittings of cleanouts.
 - (b) Push-on end plug fittings shall be as manufactured by GPK Industries, or equal.

2.03 STORM / IRRIGATION DRAIN AND DETENTION PIPE AND FITTINGS

- A. General. All pipe and fittings shall be American (domestic) made.
- B. High Density Polyethylene (HDPE) Pipe:
 - 1. HDPE WT IB pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.
 - 2. 4- through 10-inch (100 to 250 mm) shall meet AASHTO M252, Type S.
 - 3. 12- through 60-inch (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2306.
 - 4. Joint Performance: WT IB pipe joint shall meet the requirements of AASHTO M252, AASHTO M294, or ASTM F2306.
- C. 4- through 60-inch (100 to 1500 mm) shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.
- D. Fittings: Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance requirements of AASHTO M252, AASHTO M294 or ASTM F2306.
- E. Material Properties: Virgin material for pipe and fitting production shall be high-density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500 mm) virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively.
- F. HDPE Pipe shall be Hancor Blue Seal WT IB, ADS N12 WT IB or equal.

2.04 STANDARD INLETS (CATCH BASINS)

- A. All materials and products shall be American (domestic) made.
- B. Cast-in-place catch basins will not be allowed.
- C. Precast Concrete Inlets (Catch Basins)
 - 1. Precast concrete inlet sections shall be Type G-2 catch basin as shown on the Drawings and ODOT/APWA Standard Drawing RD 364, dated December 2009.
 - 2. Concrete.
 - a. Portland Cement concrete shall conform to requirements of ASTM C 94, Type II. Compressive field strength for manhole bases, inlets and other like structures shall be not less than 3,000 psi at 28 days. Maximum aggregate size shall be 1-1/2 inch. Slump shall be between 2 and 4 inches.
 - 3. Mortar.
 - a. Mortar shall conform to requirements of ASTM C 387, or be proportioned one part Portland Cement to two parts clean, well-graded Mason's sand which will pass a 1/8 inch screen. Consistency of mortar shall be such that it will readily adhere to precast concrete.
 - 4. Frames and Grates
 - a. Catch basin frames and grates for catch basins shall be Type 2 as shown on ODOT/APWA Standard Drawing RD 364, dated June 1, 2024.
 - b. Frames and grates shall be tested one within the other and these shall be no more than 1/16 inch rock. When checked by a test jig, the bearing seat of either component shall have no more than 1/16 inch rock. Test jig, shall be furnished by the manufacturer.

2.05 AREA DRAINS

- A. All materials and products shall be American (domestic) made.
- B. Cast-in-place area drains will not be allowed.
- C. Precast Concrete area drains.
 - 1. Precast concrete area drains sections Brooks Products; 2424CB.
 - 2. Concrete.
 - a. Portland Cement concrete shall conform to requirements of ASTM C 94, Type II. Compressive field strength for manhole bases, inlets and other like structures shall be not less than 3,000 psi at 28 days. Maximum aggregate size shall be 1-1/2 inch. Slump shall be between 2 and 4 inches.
 - 3. Mortar.
 - a. Mortar shall conform to requirements of ASTM C 387, or be proportioned one part Portland Cement to two parts clean, well-graded Mason's sand which will pass a 1/8 inch screen. Consistency of mortar shall be such that it will readily adhere to precast concrete.
 - 4. Frames and Grates.
 - a. Frames and grates for area drains shall be "heel proof".
 - b. Frames shall be hot dipped galvanized after fabrication in accordance with ASTM A 123.
 - c. Frames and grates shall be tested one within the other and these shall be no more than 1/16 inch rock. When checked by a test jig, the bearing seat of either component shall have no more than 1/16 inch rock. Test jig, shall be furnished by the manufacturer.

2.06 PVC IRRIGATION SLEEVES

- A. All pipe and fittings shall be American (domestic) made.
- B. Polyvinyl chloride (PVC) pipe shall be made from Class 12454-B virgin compounds, as defined in ASTM D 1784.

- C. PVC solvent welded pipe shall be Schedule 40 conforming to ASTM D 1785.
- D. Solvent cement for PVC solvent welded pressure rated pipe slip joint shall conform to ASTM D 2564.
- E. Pipe shall be manufactured by J-M Manufacturing Co., Inc., Pacific Western Extruded Plastics Co., or approved equal.

2.07 TONING WIRE AND WARNING TAPE

- A. Waterlines.
 - 1. Toning Wire shall be No. 12 AWG, solid copper with blue colored insulation.
 - 2. Underground Warning Tape shall be 6" wide, APWA Standard Blue color, reading "CAUTION - WATERLINE BURIED BELOW".
 - 3. Sanitary Sewer and Storm Drains.
 - a. Toning Wire shall be No. 12 AWG, solid copper with green colored insulation.
 - b. Underground Warning Tape shall be 6" wide, APWA Standard green color, reading "CAUTION - SEWER BURIED BELOW".

PART 3 - EXECUTION

3.01 GENERAL

- A. Install products in accordance with manufacturer's recommendations.
- B. Install piping plumb and parallel true to building structural system.
- C. Where possible, use full 20 ft. lengths.
- D. Fill and backfill shall be in accordance with Section 31-2323.

3.02 POTABLE WATER PIPE

- A. General.
 - 1. Materials shall not be distributed on the job faster than can be used to good advantage.
 - 2. All necessary signing and flagging to provide a safe working environment shall be used.
 - 3. Remove material from job site that in the judgment of the Engineer is damaged beyond repair or rejected. Payment will not be made for damaged or rejected materials, their removal, or for repairs to such materials.
 - 4. Excavation and Fill.
 - a. Prepare trench for pipe laying as specified in Section 31-2323.
 - 5. Pipe Laying - All Materials.
 - a. Distribute the pipe so that no hazard will be presented to occupants of the joining property, pedestrians or vehicular traffic.
 - b. Lift the pipe during unloading using two slings placed at quarter points of the pipe sections. Pipe may be lifted into the trench using one sling near the center of the pipe, providing the pipe is guided to prevent its uncontrolled swinging. The sling shall bear uniformly against the pipe. When not being handled, support the pipe on timber cradles or on properly prepared ground, graded to eliminate all sharp points and to provide uniform support along the full length. When being transported support the pipe at all times in a manner which will not permit distortion or damage to the lining or coating. Replace or repair any pipe damaged in handling to the satisfaction of the Engineer. Payment will not be made for damaged pipe or repairs to such damaged pipe.
 - c. PVC pipe shall be installed in accordance with AWWA C-605 and manufacturer's recommendations.
 - d. Maximum deflection at any joint shall not exceed 2-1/2°. Maximum deviation from line or grade shall not exceed 1/2 inch.
 - e. Prior to lowering pipe in the trench, check for damages to the pipe coating. Repair all damages or flaws to the coating before the pipe is placed in the trench. Materials used for repair shall be the same as the material being repaired.
 - f. Thoroughly clean the ends of the pipe to remove all foreign matter from the pipe joint.

- g. Prevent foreign material from entering the pipe while it is being placed in the trench. Remove all foreign material from the inside of the pipe and joint before the next pipe is placed. Keep debris, tools, rags or other materials out of the pipes at all times. Follow pipe laying operations closely with joint coating operations as required and backfilling of trenches.
 - h. Lay pipe with its bell end facing the direction of laying. For lines on an appreciable slope, face bells up grade unless otherwise allowed by the Engineer. Whenever it is necessary to deflect pipe from a straight line, either in the vertical or horizontal plane, do not exceed the deflection recommended by the pipe manufacturer.
 - i. When pipe laying is not in progress, close the open end of the pipe with a water tight plug or by other approved means to prevent entry of trench water or other foreign materials into the pipe.
 - j. Where new water pipe is installed near existing or new sanitary sewer lines, all provisions of OAR 333-61-050(10) regarding placement of pipe near, under, or over sanitary sewer lines shall be followed. See other sections of this Division.
 - 1) Jointing.
 - 2) Lay pipe with push-on type joints in strict accordance with manufacturer's recommendation. Lubricate the bell and spigot end as required by manufacturer with approved pipe lubricant.
 - 3) Furnish the gaskets required for the joint being assembled. Install the gasket with uniform tension around the joint groove before placing the pipe in the trench.
6. Pressure and Leakage Tests.
- a. General.
 - 1) All newly laid pressure pipe shall successfully pass a hydrostatic pressure test prior to acceptance. Test first section of pipe laid to establish that the pipe materials are capable of meeting design requirements. Section of test line shall be at least 200 feet in length. If test indicates materials or workmanship that does not meet design requirements, defective materials or workmanship shall be corrected and test re-run until specifications are fulfilled.
 - b. Water and Test Equipment
 - 1) Make all arrangements for furnishing water. Perform tests and provide personnel, hoses, tank trucks, plugs and other equipment to complete the tests at no cost to Owner.
 - 2) Make all taps in the pipe as required.
 - c. Pressure Test
 - 1) After each valved section of pipe has been laid and partially backfilled, it shall be subjected to a hydrostatic pressure of 50% in excess of specified pipe strength.
 - 2) After the entire pipeline is completed, a final test shall be undertaken under the same conditions and utilized to guarantee the performance of the completed system.
 - d. Duration
 - 1) The hydrostatic pressure test shall be at least 2 hour duration at 150 psi to determine leakage by formulas contained herein.
 - e. Procedure
 - 1) Each valved section of pipe shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe connection. Means of measuring the water necessary to maintain test pressure, gauges and all necessary apparatus, shall be furnished by the Contractor. The Contractor shall furnish all necessary assistance for conducting the test.
 - f. Expelling Air
 - 1) Before applying the specified test pressure, all air shall be expelled from the pipe.

- g. Examination During Test
 - 1) All exposed pipe, fittings and valves and all joints shall be examined during the tests. Any visible leaks shall be repaired until tight. Any cracked, broken, or defective pipe, couplings, fittings or valves shall be replaced at the Contractor's expense.
- h. Leakage
 - 1) Leakage shall be defined as the quantity of water supplied into the pipe, or any section of it, necessary to maintain the specified test pressure after the pipe has been filled with water and the air expelled. No pipe installation will be accepted until the leakage is less than the number of gallons per hour as determined by the formula in which:
 - (a) L = allowable leakage in gph.
 - (b) S = length of pipe tested in feet
 - (c) $L = SD \text{ pp } D$ = nominal diameter of pipe in inches
 - (d) 133,200 p = average test pressure during test, in pounds per square inch.
 - 2) Should any test of pipe laid disclose leakage greater than that allowed under section above, the Contractor shall, at his own expense, locate and repair the defective joints or pipe until the leakage is within the specified allowance.
- 7. Sterilization of Water Mains
 - a. Following the pressure test and before being placed in service, all new water lines shall be chlorinated.
 - b. Prior to commencing disinfection procedures, all lines shall be flushed thoroughly to remove dirt, construction debris and other potential contaminants.
 - c. Contractor shall have the option of applying chlorine by either a liquid chlorine gas-water mixture, direct fed chlorine gas or a calcium or sodium hypochlorite and water mixture conforming to AWWA C-651.
 - d. Initial amounts of chlorine shall be injected into the line to provide a dosage of at least 50 ppm (mg/1). Treated water shall be retained in the pipe for at least 24 hours. A free chlorine residual of not less than 25 ppm shall be maintained in all parts of the line after the 24 hour period has elapsed.
 - e. During the sterilization process, all valves in the main line shall be operated and all hydrants flushed until a strong residual is found.
 - f. After chlorination has been satisfactorily completed, the lines shall be thoroughly flushed until the chlorine content in all parts of the system has been proven by test to be comparable to the chlorine content of the existing system.
 - g. It shall be the responsibility of the Contractor to lawfully dispose of the chlorinated water and flushing water, and avoid flooding or damage to adjacent properties or facilities.
 - h. After flushing the chlorine from the water system and prior to placing line in service, the Contractor shall engage the services of an approved commercial testing laboratory, approved by the State of Oregon Health Division for microbiological analysis. Samples shall be taken at various points along the water main to be certain all portions of the system have been sterilized.
 - i. No section of water systems will be allowed to be connected to the water purveyor's existing water system when any sample of water tests indicate coliform bacteria as tested by the 24 Hour Membrane Filtration Method. Should the laboratory report show that any sample taken was not acceptable, Contractor shall re-chlorinate and test the water again as herein before specified. This process shall be repeated until a satisfactory disinfection has been accomplished.
 - j. Contractor shall direct the laboratory to send the original report of Bacteriological Examination to the Engineer.
 - k. Sterilization shall be conducted in the presence of the Engineer.

3.03 POTABLE WATER PIPE APPURTENANCE

- A. Manufacturer's installation recommendations are a part of this Section and shall be followed. (See Standard Detail Drawings for various items below).
- B. Fittings.
 - 1. Install fittings at the location shown or as directed by the Engineer. Handle, clean, lubricate and install fittings as specified in Section 33-0500 for laying pipe. Where a cut in the pipe is necessary for inserting fittings or closure pieces, cut the pipe mechanically without damaging pipe or lining and leave a smooth end at right angles to the centerline of the pipe. Dress and bevel the cut end of the pipe to remove sharp edges and projections which may damage the gasket. Repair all damaged lining and coating to the satisfaction of the Engineer. On the pipelines, securely anchor all tees, plugs and elbows as shown or directed to prevent movement due to thrust. Achieve anchorage only by use of approved thrust blocking or approved joint restraint.
 - 2. Couplings.
 - a. Install per manufacturer's recommendations.
 - 3. Valves.
 - a. Set valves in the same manner as previously specified for installation of pipe. Clean flange faces thoroughly before assembling the flanged joint. Insert the gasket and tighten the nuts uniformly around the flange. Align pipe carefully on both sides of the valve before final tightening of the flanges to avoid stressing the valve body. After installation, operate the valve from full open to full closed to make sure the valve does not bind during operation. Correct any malfunction in the operation of the valve. Test valve joints with adjacent pipeline. Repair any leaks as previously specified. Backfill around valves in same manner as specified for pipe.
 - 4. Valve Boxes.
 - a. Center valve boxes and set plumb over the operating nut of the valve. Set valve box bases so they do not transmit shock or stress to the valve. Set the valve box covers flush with the surface of the finished pavement or to such other level as may be directed. Adjust the extensions to the proper length as required for proper installation. Backfill shall be the same as specified for the adjacent pipe. Correct any misalignment of valve boxes without additional expense to the Owner.
 - 5. Thrust Blocking.
 - a. Provide thrust blocking, as shown or as directed by the Engineer, using concrete as specified. Place the concrete blocking between undisturbed earth and the polyethylene encased fitting to be anchored. The bearing surface shall be sized and located to adequately withstand the applied thrust force. Do not encase pipe joints or fitting joints with concrete.

3.04 STORM/IRRIGATION DRAIN AND DETENTION PIPE

- A. Line and Grade. Do not deviate from line or grade, as established by Engineer, more than 1/2 inch for line and 1/8 inch for grade, providing that such variation does not result in a level or reverse sloping invert. Measure for grade at the pipe invert, not at the top of the pipe, because of permissible variation in pipe wall thickness. Establish line and grade for pipe by the use of approved lasers or by transferring the cut from the offset stakes to batterboards at maximum intervals of 25 feet. If batterboards prove impractical because of trench conditions, submit other methods of grade and alignment control for approval.
- B. Pipe Distribution and Handling.
 - 1. Distribute material on the job no faster than it can be used to good advantage. Unload pipe only by approved means. Do not unload pipe of any size by dropping to the ground. Do not distribute more than one week's supply of material in advance of laying, unless approved.
 - 2. Inspect all pipe and fittings prior to lowering into trench to ensure no cracked, broken or otherwise defective materials are used. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.

3. Use approved implements, tools and facilities for the safe and proper protection of the work. Lower pipe into the trench in such a manner as to avoid any physical damage to the pipe. Remove all damaged or rejected pipe from the job site. Do not drop or dump pipe into trenches.
4. Pipe Laying and Jointing of Pipe.
 - a. Proceed with pipe laying upgrade with spigot or tongue ends pointing in direction of flow. Place pipe in such a manner as to ensure solid bearing between pipe and the full cross sectional in accordance with the recommendations of the manufacturer. Take care to properly align the pipe before joints are forced entirely home. Upon completion of pipe laying, all pipe joints shall be in the "home position", which is defined as the position where the least gap (if any) exists, when pipe components that comprise the joint are fitted together as tightly as the joint design will permit. Gaps at pipe joints shall not exceed that allowed by the manufacturer's recommendations. After installation, prevent movement from any cause including uplift or floating.
 - b. Take special care to prevent movement of the pipe after installation when laid within a movable trench shield.
 - c. When laying operations are not in progress, protect the open end of pipe from entry of foreign material and block the pipe to prevent movement or creep of gasketed joints.
 - d. Plug off pipes which are stubbed out for manhole and wetwell construction or for connection by others.
 - e. Provide all sewer pipes, 36 inches and smaller in diameter, entering or leaving manholes or other structures, with flexible joints within 18 inches of the exterior wall. Pipes larger than 36 inches in diameter shall have this flexible joint within a distance from the exterior wall equal to one-half the inside pipe diameter.
 - f. When cutting and/or machining the pipe is necessary, use only tools and methods recommended by pipe manufacturer.
5. Installation of Service Laterals and Tee-Wyes.
 - a. Install tee-wye fittings and service laterals as shown on the plans or as directed by Engineer.
 - b. Maximum deflection permissible with any one fitting shall not exceed 45 degrees.
 - c. Connect no service laterals to manholes. Make the connection so that the standard pipe joint is located not more than 18 inches from the structure.
 - d. Provide ends of all service laterals or fittings with approved watertight end plugs, suitably braced to prevent blowoff during internal air testing. Such plugs shall be removed and their removal shall provide a socket suitable for making a flexible joint lateral connection or extension.

3.05 HIGH DENSITY POLYETHYLENE (HDPE) PIPE

- A. Installation shall be in accordance with ASTM D2321 and manufactures recommended installation guidelines. Contact manufacture's representative for a copy of the latest installation guidelines.

3.06 MANHOLES AND CLEANOUTS

- A. Construct manholes at locations shown on the Drawings.
- B. Precast concrete base section shall be properly located and set plumb.
- C. Clean ends of precast sections of foreign material and apply primer solution to lower and upper jointing surfaces. Place joint compound in groove of lower section in accordance with manufacturer's recommendation. Set next section in place. Manhole sections with chips or cracks in jointing surfaces shall not be used.
- D. Completed manholes shall be rigid and watertight.
- E. Precast base sections shall be hand troweled with grout to provide flow channels with a smooth surface.

1. Shape flow channels to conform to pipe radius.
 2. Remove all rough sections or sharp edges to ensure an unobstructed flow through manhole.
- F. Where a full section of pipe is laid through a manhole, break out the top section to the full width of pipe and diameter of manhole. Cover exposed edges of pipe completely with mortar. Trowel all mortar surfaces smooth.
- G. Mortar and trowel interior and exterior surfaces smooth.
- H. Eccentric cones shall be placed with the slope face on the downstream side of the manhole.
- I. Drop manhole assemblies shall be installed per the Standard Detail Drawing.
- J. Install stubouts from manholes per the Drawings.
- K. Manhole grade rings.
1. Install grade rings to the height directed. Lay grade rings in mortar with sides plumb and tops level. Extensions shall be watertight.
 2. Manhole grade rings will be used on all manholes in streets or roads or in other locations where subsequent change in existing grade may be likely. Extensions will be limited to a maximum height of 12 inches. Finish grade for manhole covers shall conform to finished ground or street surface unless otherwise directed.
- L. Frames and Covers.
1. Set frames in a bed of mortar with the mortar carried over the flange of frame.
 2. Set frames so tops of cover are flush with surrounding pavement or ground surface, unless otherwise shown or directed.

3.07 INLETS - CATCH BASINS AND AREA DRAINS

- A. Conform to details shown on the Standard Detail Drawings and applicable provisions herein.
- B. Remove and keep all water clear from the excavation.
- C. Construct inlets at locations shown on the Drawings.
- D. Mortar and trowel interior and exterior surfaces smooth.
- E. Set frames and grates at elevations shown or as directed. Bearing surfaces shall be clean and provide uniform contact.
- F. Upon completion, clean each structure of all silts, debris and foreign matter, marks or irregularities.

3.08 TONING WIRE AND WARNING TAPE

- A. Wire and tape shall be buried the entire length of trench and placed above pipe per standard trench detail drawing.
- B. Wire shall be brought to the surface and connected at each valve box or manhole. Distance between tracer lead access locations shall not be more than 1,000 feet. Joints or splices in wire shall be waterproof. Toning wire shall be laid on top of the installed pipe and attached with duct tape at approximately 8' intervals.
- C. Tape shall be placed over the pipe zone material, approximately 6 inches above top of installed pipe. Lay flat and untwisted.

3.09 EXCAVATION AND BACKFILL

- A. General.
 1. Determine location of existing underground utilities and services, uncover by hand digging.
 2. Completely de-water trenches and excavations before pipe is laid or concrete is placed.
 3. When necessary to prevent caving, excavation in sand, gravel or other unstable materials provide shoring and bracing. Shoring shall remain in place until testing, inspection and backfill for 12 inches above pipe are complete.

4. Remove from site excavation materials not required or suitable for backfill.
 5. Delay backfill trenches until all tests are performed and until after inspection and approval by governing authority.
 6. Record Drawings: During progress of underground work, maintain an accurate record of all installation depths and changes in direction for future accurate location. Record daily work progress prior to any backfill.
 7. Repair any damage to existing streets, sidewalks, concrete, piping, etc., at Contractor's expense.
- B. Excavation.
1. Width: To provide working space, but in no case less than 18 inches plus the inside diameter of the pipe to be placed therein.
 2. Grade Bottom of Trenches: Carried to lines and grades as shown or as required and established with instruments with proper allowances for pipe thickness and bedding. Any amount of trench excavated below grade shall be corrected with approved materials thoroughly compacted.
 3. Unless otherwise shown, piping shall have the following minimal cover:
 - a. Waste, Storm Drain - per Drawings
 - b. Waterline - 36"
- C. Bedding.
1. Buried pipes shall be laid on minimum 6 inches of compacted Class B crushed rock bedding.
 2. Bedding shall extend from bottom of pipe to undisturbed earth, be evenly graded to support pipe at proper slope, and compacted to 95% density of AASHTO T-180/ASTM D1557-00.
- D. Backfill
1. Backfill shall be as noted on the Drawings and indicated by the Standard Details.
 2. Should any backfilled ditch show settlement at any time through one year warranty period, Contractor shall bring ditch back to grade with compacted fill and repair any damage to concrete or paved areas caused by settlement.

END OF SECTION