

**SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
WILSONVILLE CITY HALL RENOVATION**

CITY OF WILSONVILLE PROJECT #8130, 8131, 8132

**BID SUBMITTAL DUE BY:
2:00 PM, Tuesday, November 26, 2019**



Bidders do not need to be pre-qualified to bid this Project; however, Bidders must be qualified by the City of Wilsonville, in compliance with Oregon Revised Statutes Chapter 279C.375(3), in order to be awarded this Project.

In determining the responsiveness and responsibility of any bid submitted, establishing requisite qualification with the City shall not be considered an informality.

PREPARED BY:

Office of the Building Official
29799 SW Town Center Loop East
Wilsonville, OR 97070
(503) 682-4960

-- This page intentionally left blank --

Table of Contents

DESCRIPTION	SECTION PAGES
SECTION I – BIDDING REQUIREMENTS	
INVITATION TO BID	I-7
INSTRUCTIONS TO BIDDERS	I-11
BIDDER’S CHECKLIST	I-19
BID PROPOSAL	I-22
BID SCHEDULE	I-28
BID BOND FORM	I-30
NON-COLLUSION AFFIDAVIT	I-32
INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT	I-34
CERTIFICATION REGARDING CONTRACTOR’S STATUS SUSPENSION/DEBARMENT	I-36
FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM	I-38
SECTION II – CONTRACT	II-3
SECTION III – SPECIAL PROVISIONS	
TABLE OF CONTENTS – GENERAL CONDITIONS	III-3
STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT	III-5
BID ITEM DESCRIPTIONS	III-81
PROJECT SPECIFIC SPECIAL PROVISIONS	III-83
APPENDIX A	
PLANS & DETAILS	A-3
TECHNICAL SPECIFICATIONS	A-20
APPENDIX B – CERTIFICATES OF COMPLETION	B-3
APPENDIX C – BONDS	
PERFORMANCE BOND	C-3
PAYMENT BOND	C-5
WARRANTY AND MAINTENANCE BOND	C-7

-- This page intentionally left blank --

Section I – Bidding Requirements

-- This page intentionally left blank --

INVITATION TO BID

Sealed bids for furnishing all materials, labor, and equipment for the construction of the **Wilsonville City Hall Renovation** for the City of Wilsonville ("Project") will be accepted at the City of Wilsonville, City Hall, 29799 SW Town Center Loop East, Wilsonville, Oregon 97070, by mail or hand delivery, until **November 26, 2019, at 2:00 p.m., Local Time**. At 2:00 p.m. all bids will be publicly opened and read. First-tier subcontractor disclosure submittals from Bidders will be received until **November 26, 2019, at 4:00 p.m., Local Time**. Bidders that fail to submit disclosure forms within the allowable time period will be considered non-responsive and the submitted bid will be rejected. Dan Carlson, Building Official is the person designated to receive bids.

Bidders must be qualified by the City of Wilsonville ("City") in compliance with ORS 279C.375(3).

The choice of bid and/or the rejection of bids will be announced by 5:00 p.m. on Tuesday, December 3, 2019. A contract will be awarded within thirty (30) days after the selection of a qualified Bidder.

SCOPE OF WORK: ("Work") for the Project consists of furnishing all materials, labor, equipment, and supervision for the renovation of the Wilsonville City Hall front counter, building department work area, and conference room, and performance of such additional and incidental work as called for by the Specifications and Contract Documents.

The estimated Project cost range is \$190,000 to \$215,000.

Specifications and Contract Documents are available on Friday, November 1, 2019, after 8:00 a.m., at the City of Wilsonville, 29799 SW Town Center Loop East, Wilsonville, Oregon 97070. Copies of the Project Specifications and Contract Documents may be purchased for \$35.00 each from the City of Wilsonville. Bidders may also download them at www.questcdn.com and input Quest CDN #**6573582**. Requests for documents to be mailed via overnight express shall be accompanied by a separate check in the amount of \$35.00. The City shall not be held responsible for the receipt of documents sent via mail.

All bids must be submitted on the forms furnished in the Project Specifications and Contract Documents and each must be accompanied by a Bid Security in the amount of ten percent (10%) of the total bid. The successful Bidder will be required to furnish Performance and Payment Bonds from a City approved surety for faithful performance of the contract in the full amount of the contract price.

This is a Contract for a Public Works Project ("Contract"), subject to ORS 279C.800 to 279C.870. Therefore, not less than the applicable state prevailing wage must be paid on this Project. (See <https://www.oregon.gov/boli/WHD/PWR/Pages/index.aspx>). In addition, all Bidders shall be compliant with all tax laws. No bid will be received or considered unless the bid contains a statement by the Bidder, as part of the bid, that the provisions of ORS 279C.838 or 279C.840 will be met.

In accordance with ORS 279C.515, if the Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in

connection with the Contract, as the claim becomes due, the City may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due, or to become due, to the Contractor by reason of the Contract. 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 Contract within thirty (30) days after receipt of payment from the contracting agency or Contractor, the Contractor or first-tier subcontractor shall owe the person the amount due, plus interest charges. The payment of a claim in the manner authorized in this section does not relieve the Contractor or the Contractor's surety from any obligation with respect to any unpaid claims.

In accordance with ORS 279C.830(2), the Contractor and every subcontractor must 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). Additionally, the Contractor shall include in every subcontract a provision requiring the 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).

In accordance with ORS 279C.520, employees shall be paid at least time and a half pay for daily, weekly, weekend, and holiday overtime. An employer must give notice, in writing, to employees who work on a public contract, either at the time of hire or before commencement of Work on the Contract or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.

In accordance with ORS 279C.530, the Contractor shall promptly make payment for medical services that the Contractor has agreed to pay for, and all moneys and sums that the Contractor collected or deducted from the wages of employees under any law, contract, or agreement for the purpose of providing or paying for the services.

Each bid must identify whether the Bidder is a resident bidder, as defined in ORS 279A.120.

The performance of this Contract does not require a contractor or subcontractor to be licensed to do asbestos abatement work under ORS 468A.720.

No bid for this Contract will be received or considered by the City unless the Bidder is licensed with the Construction Contractors Board, as required by ORS 701.035 to 701.055, or the State Landscape Contractors Board, as specified in OAR 137-049-0230. In addition, the Contractor and every subcontractor must obtain a City of Wilsonville Business License or a Metro Business License prior to performing work within the City limits.

The City reserves the right to reject any bid that is not in compliance with all prescribed public contracting procedures and requirements, including the requirement to demonstrate the Bidder's responsibility under ORS 279C.375(3)(b). The City may reject any bid for good cause. The City may also reject all bids upon a finding of the agency that it is in the public interest to do so.

When applicable, all bidding shall comply with President's Executive Order No. 11246. All Bidders shall comply with the applicable provisions of the Equal Employment Opportunity Act of 1972 and the Civil Rights Act of 1964.

The Contractor shall use recyclable products to the maximum extent economically feasible in the performance of the Contract.

Bidders are required, prior to submission of bids, to examine the site and Specifications of the contemplated Work. Perceived errors and omissions in the Plans or Specifications shall be called to the attention of the City's Project Manager so that an Addendum may be issued. Failure to do so on the part of the Bidder does not relieve Bidder of responsibility for a correct and completely finished job.

A **non - mandatory** pre-bid meeting for prospective Bidders will be held at Wilsonville City Hall, 29799 SW Town Center Loop E., Wilsonville OR 97070, beginning at 2:00 PM local time on Thursday, November 14, 2019.

The following is the anticipated timeline for receiving and evaluating bids and awarding a contract to the most qualified Bidder. This schedule is subject to change if additional time is needed.

Advertise Invitation to Bid	November 1, 2019
Pre-Bid Meeting	2:00 PM, Thursday, November 14, 2019
Bid Question Submission Deadline	November 18, 2019 4:00 p.m.
Addenda Issuance Deadline	November 22, 2019, 4:00 p.m.
Bid Opening	Tuesday, November 26, 2019, 2:00 p.m. (Wilsonville City Hall)
Evaluation of Proposals Complete	December 2, 2019
Notice of Intent to Award	December 3, 2019
Award Protest Deadline	December 10, 2019, 4:00 p.m.
City Council Award Hearing	<i>Tentatively</i> Monday, December 16, 2019, 7:00 p.m. (within 45 days of Notice of Intent to Award)
Notice of Award	<i>Tentatively</i> , December 17, 2019 (Day after Council Award)

For additional information, contact the City Project Manager:

Dan Carlson
City of Wilsonville
29799 SW Town Center Loop E.
Wilsonville OR 97070
Telephone: (503) 682-4960
Fax: (503) 682-7025
Email: carlson@ci.wilsonville.or.us

By Order of Dan Carlson, Building Official, City of Wilsonville, 29799 SW Town Center Loop East, Wilsonville, Oregon 97070. Dated this 28th day of October, 2019.

-End of Section-

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

Unless otherwise defined herein, capitalized terms used in these Instructions to Bidders are defined in the General Conditions or Supplementary Conditions contained in the Contract Documents. The term "Successful Bidder" means the lowest priced, qualified, responsible Bidder to whom the City of Wilsonville ("Owner") (on the basis of Owner's evaluation as hereinafter provided) makes an award. The term "Bid Documents" means the Solicitation Documents as defined under OAR 137-049-0200, and includes all documents that are issued prior to the Bid Closing time.

2. GENERAL

A general description of the Work to be performed is contained in the Invitation to Bid. The Scope of Work is specified on the accompanying applicable parts of these Contract Documents. The selected Contractor shall furnish all materials, unless otherwise specified.

3. CONTRACT DOCUMENTS

The Contract Documents under which it is proposed to execute the Work consist of all material bound herewith and any Addenda hereafter. These Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the Work. Any party contemplating the submission of a Proposal and being in doubt as to the meaning or intent of the Contract Documents, should request that the City's Project Manager provide, in writing, an interpretation thereof. Any interpretation or change in the Contract Documents will be made only in writing, and a copy of such interpretation or change will be mailed or delivered to each party receiving a set of Documents. The City will not be responsible for any other explanation or interpretation of said Documents.

4. PRE-BID MEETING

A **non-mandatory** pre-bid meeting for prospective Bidders will be held at the time and place designated in the Invitation to Bid. Statements made by the City's Project Manager at the walkthrough are not binding upon the City unless confirmed by this document or written addendum thereto. Failure to attend the pre-bid meeting will not disqualify a contractor from bidding on the Project.

5. TYPE OF PROPOSAL

All bids must be submitted on the forms provided in the Contract Documents. The Proposal for the Work contemplated is to be submitted on a lump sum basis and/or unit price basis, as shown on the Bid Schedule.

6. PREPARATION OF BID PROPOSAL

All blank spaces in the Bid Proposal form must be filled in, in blue or black ink, in both words and figures where required. No changes shall be made to the Bid Proposal form. If the Bidder's figures are not legible and the Bidder fails to provide bid amounts, in writing, the bid will be considered non-responsive and shall not be considered for contract award. Written amounts

shall govern in cases of discrepancy between the amounts stated in writing and the amounts stated in figures.

Erasures or interlineations in the Bid Proposal must be explained or noted over the signature of the Bidder. Any Bid Proposal shall be deemed unresponsive if it contains omissions, erasures not properly noted, alterations, or additions of any kind, or items uncalled for, or if any of the items are obviously unbalanced, in the opinion of the City Project Manager, or which in any manner shall fail to conform to the conditions of the published Invitation to Bid.

In the event that the product of a unit price and an estimated quantity do not equal the extended amount quoted on the Bid Schedule, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a Bid Schedule do not equal the total amounts quoted, the individual item amounts shall govern, and the correct total shall be deemed to be the amount bid.

The Bidder shall sign the Bid Proposal in the blank space provided. Bid Proposals made by corporations, limited liability companies, or partnerships shall contain names and addresses of the principal officers, managers, or partners. If the Bid Proposal is made by a corporation, it must be acknowledged by one of the principal officers thereof; if made by a partnership, by one of the partners; if made by an LLC, by a managing member.

7. SUBMISSION OF BIDS

Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be placed in an opaque sealed envelope, marked with the Project title, name and address of the Bidder, and accompanied by the Bid Security and other required documents (see Bidder's Checklist). Any bid not so submitted may be considered non-conforming. The Bidder must identify whether the Bidder is a "resident bidder," as defined in ORS 279A.120 (1).

The Bidder shall assume full and complete responsibility for timely delivery of the bid to the location designated for receipt of bids, as follows:

City of Wilsonville
Attn: Dan Carlson
29799 SW Town Center Loop East
Wilsonville OR 97070

8. FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

Within two (2) hours of the date and time of the deadline when bids are due, the Bidders shall submit to the City a disclosure of any first-tier subcontractors whose contract value is equal to or greater than: a) five percent (5%) of the total Project bid, but at least Fifteen Thousand Dollars (\$15,000); or b) Three Hundred Fifty Thousand Dollars (\$350,000), regardless of the percentage of the total Project bid. The disclosure form shall include: a) the name and address of each subcontractor; b) the registration number assigned to the subcontractor by the Construction Contractors Board, if the subcontractor is required to have a certificate of

registration by the Board; c) the amount of the contract of each subcontractor; and (d) the category of work the subcontractor will be performing.

9. NON-DISCRIMINATION CERTIFICATION

A bidder or proposer who competes for or is awarded a public contract may not discriminate against a subcontractor in awarding a subcontract because the subcontractor is a minority, woman, or emerging small business enterprise certified under ORS 200.055, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as defined by ORS 408.225.

- This type of discrimination within three years of the current solicitation can lead to debarment or disqualification of the Bidder.
- Violation after the Contract is awarded may be regarded as a breach of contract.

Each Bidder shall certify in the documents accompanying the Bidder's offer to enter a public contract that the Bidder has not discriminated and will not discriminate against any minority, woman, or emerging small business enterprise, or a business enterprise that is owned or controlled by or that employs a disabled veteran, in obtaining a required subcontract.

10. WITHDRAWAL OF BID PROPOSAL

Bids may be modified by an appropriate document duly executed and delivered to the place where bids are to be submitted at any time prior to the Bid Closing. Any Bid Modification must be submitted in a sealed opaque envelope, marked with the Project title, name and address of the Bidder, and labeled "Bid Modification – Wilsonville City Hall Renovation." The Bid Modification must include a statement that the modification amends and supersedes the prior bid. A Bid Modification may be made any time before Bid Closing. If submitted by mail, the Bidder is responsible to ensure the City receives the Bid Modification prior to Bid Closing. Oral communications or e-mails are not acceptable.

A bid may be withdrawn by written notice submitted on the Bidder's letterhead, signed by an authorized representative, and delivered to the location specified for bids in the Invitation to Bid before the time scheduled for Bid Opening. Any Bid Withdrawal must be submitted in a sealed opaque envelope, marked with the Project title, name and address of the Bidder, and labeled "Bid Withdrawal – Wilsonville City Hall Renovation." No Bid Proposal may be withdrawn after the time scheduled for the opening of Bid Proposals. If submitted by mail, the Bidder is responsible to ensure the City receives the Bid Withdrawal prior to the time scheduled for Bid Opening. Oral communications or e-mails are not acceptable, except that a Bidder or authorized representative of the Bidder may withdraw a bid in person, prior to the time scheduled for Bid Opening, upon presentation of appropriate identification and satisfactory evidence of authority.

11. INTERPRETATIONS AND ADDENDA

- (a) All questions about the meaning or intent of the Bidding Documents shall be submitted to the City's Project Manager, in writing by the due date. Questions received less than the due date for questions will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications are not binding unless confirmed by written Addendum, including discussions at prebid conferences.
- (b) Addenda may be issued to clarify, correct, or change the Bidding Documents, as deemed advisable by the City's Project Manager, in consultation with the Building Official. Addenda will be issued a minimum of seventy-two (72) hours prior to Bid Closing unless the Addendum also extends the Bid Closing.
- (c) An Addendum is considered to be issued at the time copies of the Addendum are available to prospective Bidders at City Hall and the office of the Building Official. The Addendum will be mailed or delivered electronically via email to all parties recorded by the City's Project Manager as having received the Bidding Documents, and will be made available for pickup at City Hall and the office of the Building Official by any interested party. Electronic transmittal or mailing of the Addendum shall be considered notice, as required by OAR 137 049 250.
- (d) Each prospective Bidder shall be responsible for verifying the number of Addenda issued seventy-two (72) hours prior to Bid Closing. Failure by the prospective Bidders to verify the number of Addenda issued, or failure of an Addendum to be delivered in a timely manner to prospective Bidders, shall not be grounds for a Bid protest.

12. BID SECURITY

Bid Proposals must be accompanied by a Bid Security in the form of a cashier's check drawn on a bank in good standing, or a Bid Bond issued by a surety company authorized to issue such bonds in the State of Oregon, in an amount of not less than ten percent (10%) of the total amount of the Bid Proposal submitted. The cashier's check or Bid Bond shall be given as a guarantee that, if awarded the Contract, the successful Bidder will execute the Contract (sample attached) and furnish a properly executed Performance and Payment Bond in the amount of one hundred percent (100%) of the Contract price within the time specified.

The City reserves the right to retain the Bid Security of the three (3) lowest Bidders until the successful Bidder has signed and delivered the Contract. Upon failure of the successful Bidder to sign and deliver the required Contract insurance verification and Performance and Payment Bond within the specified time, the next lowest bid may be accepted at the City's discretion, whereupon the above instructions and requirements will apply to said second Bidder.

If requested in writing, the Bid Security, except the three (3) lowest, will be returned promptly after the canvass of bids; the Bid Security of the three (3) lowest Bidders will be returned within three (3) calendar days after the Contract has been executed or other disposition is made, in accordance with the provisions of the Contract Documents.

13. CONDITIONS OF WORK

Each Bidder must inform itself of the conditions relating to the regular execution of the Work. Bidders are expected to inspect the Project site and be thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of the obligation to enter into the Contract and complete the Work in strict accordance with the Contract Documents.

Each Bidder must inform itself on all laws and statutes, both federal and state, relative to the execution of the Work, the employment of labor, protection of public health, the protection of private property, rights-of-way, access to the Work, fire protection regulations, and similar requirements.

14. FINANCING

The Project will be financed by the City. The City will make monthly payments for Work performed, as more particularly described in the Contract Documents (see Section II – Contract).

15. AWARD OF CONTRACT

Within forty-five (45) calendar days after the opening of Bid Proposals, the City will either accept one of the Bid Proposals, reject all bids, or accept only a portion of the lowest bid based on budget.

The City reserves the right to reject any and all bids, to waive any and all informalities, to negotiate contract terms with the successful Bidder, and to disregard all nonconforming, nonresponsive, or conditional bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between unit prices and total price will be resolved in favor of the unit price.

If a Contract is to be awarded, it will be awarded to the lowest Bidder whose evaluation by the City indicates to the City that the award will be in the best interest of the Project, as outlined in Section 16, below. As a part of that evaluation, the City reserves the right to add alternate items or to delete certain bid items from the award without rebidding.

After evaluation of the bids, the City will issue a Notice of Intent to Award Contract to all Bidders via email, and will post this information on the City's website. Protests or appeals of the City's intent to award shall be made in accordance with Section 21, below.

The City will give the successful Bidder a Notice of Award, subject to final approval by City Council, which shall occur within forty-five (45) calendar days of the Notice of Intent to Award.

16. BASIS OF AWARD

The award will be made by the City to a qualified Bidder on the basis of price, but with the following factors taken into account. The City reserves the right to reject the bid of any Bidder who does not pass any such evaluation to the City's satisfaction.

- (a) In evaluating bids, the City shall consider the qualifications and experience of the Bidders, in addition to whether or not the bids comply with the prescribed requirements, alternatives, and unit prices, if requested in the Bid Forms. In addition, determination of Bidder responsibility for public projects will be in accordance with OAR 137-049-0390(2). It is the City's intent to accept alternatives (if any are accepted) in the order in which they are listed (if any are listed) in the Bid Forms, but the City may accept them in any order or combination.
- (b) The City may consider the qualifications and experience of subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work for which the identity of subcontractors and other persons and organizations must be submitted, as provided in the General or Supplementary Conditions. Operating costs, maintenance considerations, performance data, and guarantee of materials and equipment may also be considered by the City.

17. EXECUTION OF CONTRACT

After approval of the Contract by Wilsonville City Council, Owner will give a Notice of Award to the successful Bidder, accompanied by at least four (4) unsigned counterparts of the Contract and all other Contract Documents. Within ten (10) calendar days thereafter, Contractor shall sign and deliver at least four (4) counterparts of the Contract to the Owner, with all other Contract Documents attached. Within twenty (20) days thereafter, Owner will deliver all fully signed counterparts to Contractor.

18. FAILURE TO EXECUTE CONTRACT

Should the successful Bidder fail or refuse to execute the Contract, then the Bid Security deposited by said Bidder shall be retained as liquidated damages by the City. It is agreed that actual damages are difficult to ascertain, but the City and Bidder agree that the Bid Security sum is a fair estimate of the amount of damages the City will sustain in case the Bidder fails to enter into the Contract.

19. TIME OF COMPLETION

The time of completion of the Work to be performed under this Contract is stated in the Contract. Delays and extensions of time may be allowed at the City's sole discretion.

20. NOTICE TO PROCEED

It is the intent of the City to issue a "Notice to Proceed" on or about December 17th, 2019.

21. PROTESTS AND APPEALS

Adversely affected or aggrieved Bidders may submit to the City's Community Development Director written protest of the City's intent to award within seven (7) business days following receipt of the Notice of Intent to Award Contract. The protest must specify the grounds upon which the protest is based. The City will not consider any late protests.

A Bidder is adversely affected or aggrieved only if the Bidder is eligible for award of the Contract as the responsible Bidder submitting the lowest responsive bid and is next in line for award, i.e., the protesting Bidder must claim that all lower Bidders are ineligible for Award:

- (a) Because their bids were nonresponsive; or
- (b) Because the City committed a substantial violation of a provision in the Solicitation Documents or of an applicable procurement statute or administrative rule, and the protesting Bidder was unfairly evaluated and would have, but for such substantial violation, been the responsible Bidder offering the lowest bid.

The City shall not consider a protest submitted later than seven (7) business days after the City issues its Notice of Intent to Award Contract, or such different period as may be provided in the Contract Documents. A Bidder may not protest the City's decision not to increase the size of the competitive range above the size of the competitive ranges set forth in the Contract Documents.

-End of Section-

-- This page intentionally left blank --

BIDDER'S CHECKLIST

Bidder's attention is called to the following. Any required forms must be executed in full as required and included with the bid. This checklist is intended to assist the Bidder but may not be all inclusive. Bidder is instructed to review all Contract Documents thoroughly to ensure Bidder addresses all requirements in Bidder's Bid Proposal. Submittal of all forms with the bid is a matter of responsiveness.

The following documents must be submitted with the Bid Proposal:

BID PROPOSAL SHEETS

Each Bidder shall complete all sheets in the Bid Proposal. Failure to fully complete the Bid Proposal will result in Bidder disqualification.

BID SCHEDULE

Prices must be written in the spaces provided and must be expressed in figures.

BID BOND FORM

This form is to be executed by the Bidder and their surety company. The amount of cash, certified check, or Bid Bond shall not be less than ten percent (10%) of the total amount of the bid.

NON-COLLUSION AFFIDAVIT

Each Bidder shall complete this form, to be submitted with the Bid Proposal (see the instructions and form included with the Contract Documents).

CERTIFICATION REGARDING CONTRACTOR'S STATUS – SUSPENSION/DEBARMENT

Each Bidder shall complete this form, to be submitted with the Bid Proposal (see form included with the Contract Documents).

The following form is to be executed within two (2) working hours of when bids are due:

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

This form is to be executed by the Bidder and actually received by the City within two (2) working hours of the date and time of the deadline when bids are due to the City.

NOTE: This form must be filled out by subcontractors as well as by the prime contractor whenever the amount of the subcontract is over \$25,000. Forms from subcontractors do not have to be included with the bid, but they must be submitted to the prime contractor and be made available for inspection immediately following the bid opening (if requested).

The following documents are to be executed and/or submitted within ten (10) calendar days of when the Contract is awarded:

CONTRACT

The Contract shall be executed by the successful Bidder.

PERFORMANCE AND PAYMENT BOND

To be executed by the successful Bidder and their surety company prior to the execution of the Contract by the Owner.

PUBLIC WORKS WAGE CERTIFICATION FORM

To be completed in accordance with state law and submitted monthly and with the first and last request for payment.

CERTIFICATE OF INSURANCE

To be executed by the successful Bidder and their insurance company prior to the execution of the Contract by the Owner.

CONTRACTOR'S DRUG-TESTING POLICY

Submit copy of Drug Testing Policy per "Contractor's Responsibilities" Section of the Contract.

CONTRACTOR'S LICENSES

Contractor's license for the Construction Contractor's Board and a City of Wilsonville or Metro business license.

CONTRACTOR'S CONSTRUCTION SCHEDULE

Clearly show the material submittal timeline, start of construction, major items of work, utility relocation, and completion of construction in accordance with the Specifications. Pages in 8-1/2" x 11" or 11" x 17" format are acceptable, provided they are readable to City representatives.

-End of Section-

-- This page intentionally left blank --

BID PROPOSAL

City Council
City of Wilsonville
29799 SW Town Center Loop East
Wilsonville, OR 97070

This Bid Proposal is submitted as an offer by the undersigned to enter into a contract ("Contract") with the City of Wilsonville, hereinafter referred to as the "Owner," to furnish all labor, material, equipment, and services required for the construction of the **Wilsonville City Hall Renovation**, as more particularly described in the Contract Documents. This offer is conditioned on the following declarations as to the acts, intentions, and understandings of the undersigned and the agreement of the Owner to the term and prices herein submitted.

1. The undersigned, hereinafter called the "Bidder," declares that the only persons or parties interested in this Bid Proposal are those named herein, that the Bid Proposal is in all respects fair and without fraud, and that it is made without any connection or collusion with any person making another Bid Proposal on this Contract.
2. The Bidder further declares that Bidder has carefully examined the Specifications for the construction of the proposed improvements; that Bidder has personally inspected the contemplated construction area or areas; that Bidder is satisfied as to the quantities of materials, items of equipment, and conditions of Work involved, including the fact that the description of Work and materials as included herein is brief and is intended only to indicate the general nature of such items and to identify the said quantities with the detailed requirements of the Specifications; and that this Bid Proposal is made according to the provisions and under the terms of the Specifications which are hereto attached and are hereby made a part of this Bid Proposal.
3. The Bidder agrees that if this Bid Proposal is accepted, Bidder will, within ten (10) calendar days after the notification of acceptance, execute the Contract with the Owner in the form of Contract specified, and will, at the time of execution of the Contract, deliver to the Owner the Performance and Payment Bonds required herein, and will, to the extent of this Bid Proposal, furnish all the materials necessary to complete the Work by 5:00 p.m. on April 17, 2020, according to methods as specified in the Specifications and required by the City's Project Manager.
4. All of the Specifications and Plans, which are contained in the Contract Documents, have been examined by the Bidder and their terms and conditions are hereby accepted.
5. The Bidder understands that the Specifications and Plans may be supplemented by additional drawings and specifications in explanation and elaboration of those listed herein. It is agreed that such supplemental drawings will have the same force and effect as if completed and attached hereto, and that, when received, they will be considered a part of the Contract Documents.
6. The Bidder understands that all Work shall be performed under the Bid Schedule attached hereto and that, for said prices, all services, material, labor, equipment, and all Work necessary to

complete the Project, in accordance with the Plans and Specifications, shall be furnished for the said prices named. After contract award, if there will be an increase in the Scope of Work or a decrease in the Scope of Work covered by the Bid Schedule, it shall be made only as a result of negotiation between the Bidder and the Owner, and documented by a written Change Order. Furthermore, it is understood that any estimate with respect to time, materials, equipment, or service which may appear on the Plans or in the Specifications is for the sole purpose of assisting the Bidder in checking its own independent calculations and at no time shall the Bidder attempt to hold the Owner, the City's Project Manager, or any other person, firm, or corporation responsible for any errors or omissions that may appear in any estimate.

7. The cash, certified check, or Bid Bond accompanying this Bid Proposal shall be payable to the City of Wilsonville in an amount equal to ten percent (10%) of the total bid. The Bid Bond will be forfeited if Bidder's Bid Proposal is accepted by the City and the Bidder shall fail or refuse to execute the Contract and furnish a Performance and Payment Bond, as required by the Contract Documents, within the time limit named therein after notification that said Bid Proposal is accepted, all in accordance with the provisions of this Bid Proposal and the Contract Documents.

8. **QUALIFICATIONS FOR INSURANCE AND BONDING COMPANIES**

Minimum Financial Security Requirements. The Bidder understands all bonding and insurance companies providing insurance or bonds required by the Contract must meet certain minimum financial security requirements. These requirements conform to the rating published by A.M. Best & Co. and a current Bests Key Rating Guide-Property-Casualty. All companies providing bonds or insurance under this Contract must:

- Have a current A.M. Best Rating of not less than A;
- Have a current A.M. Best Financial Size Category of not less than Class IX;
- Be authorized to conduct and transact insurance and surety contracts in the State of Oregon; and
- Be a U.S. Treasury Circular 570 listed company, if providing payment or performance bonds.

Failure to Meet Minimum Financial Security Requirements. If the issuing company does not meet these minimal requirements, or for any other reason is unsatisfactory to the Owner, written notification will be made by the Owner to the Contractor, who must promptly obtain and submit a new policy or bond issued by an insurer/surety acceptable to the Owner.

9. The Bidder declares that all items on the Bid Schedule have been completed in full by the showing of lump sum price or unit prices and item total for each and every item thereof, and for the showing of other information indicated by the Bid Schedule form.
10. The Bidder agrees that Bidder will substantially complete the Work within the specified time frames after "Notice to Proceed" has been issued by the Owner.
11. The Bidder agrees that Final Completion and Acceptance shall occur when all Contract Work is completed and approved, in writing, by the Owner. The final punch list, provided at the time of

substantial completion, must be completed and approved, in writing, by the City's Project Engineer.

- 12. The Bidder further proposes to accept as payment in full for the Work proposed herein the amount computed under the Bid Schedule and as further provided by the provisions of the Contract Documents.
- 13. As required by OAR 137-049-440(3), the undersigned Bidder certifies that Bidder has not discriminated and will not discriminate against any disadvantaged business enterprise, minority owned business, women-owned business, emerging small business, or business that a service-disabled veteran owns in obtaining any required subcontracts.
- 14. The name of the Bidder who is submitting this bid is:

Bidder Co. Name: _____
Contact Name: _____
Address: _____
Phone No.: _____
Fax No.: _____
Email: _____

This is the address to which all communications concerned with this bid and with the Contract shall be sent.

- 15. The Bidder proposes that if the Bidder is awarded the Contract for this bid, the Surety who will provide the Performance Bond will be:

Surety Co. Name: _____
Agent Name: _____
Address: _____
Phone No.: _____
Fax No.: _____
Email: _____
Bond No.: _____

A.M. Best Rating: _____

A.M. Best Finance Size Category: _____

Conduct Business in Oregon: _____ Yes _____ No

U.S. Treasury Circular 507 List
(Payment or Performance Bond only): _____ Yes _____ No

16. The name of the Insurance Company is:

Insurance Co. Name: _____
Contact Name: _____
Address: _____
Phone No.: _____
Fax No.: _____
Email: _____

A.M. Best Rating: _____

A.M. Best Finance Size Category: _____

Conduct Business in Oregon: _____ Yes _____ No

17. The name(s) of the principal officer(s) of the entity are as follows:

18. In the execution of this Work, the Bidder proposes to use the following subcontractors. The subcontractors, by name and specialty of work, are as follows:

Full Legal Name	Specialty
_____	_____
_____	_____
_____	_____
_____	_____

19. The Bidder agrees to be bound by and will comply with the provisions of ORS 279C.838, 279C.840, or 40 USC 3141 to 3148. Signing of the Bid Proposal constitutes compliance, and a separate statement is not necessary.

20. In accordance with ORS 279C.505(2), the Contractor shall demonstrate that an employee drug-testing program is in place. The **Contractor shall provide a copy of the drug testing policy** to demonstrate that such a program is in place.

21. Declaration of Residency

I _____ a "resident bidder"* as defined by ORS 279A.120.
("am" or "am not")

I _____ a licensed contractor pursuant to ORS 701.026.

("am" or "am not")

*"Resident Bidder" means a Bidder that has paid unemployment taxes or income taxes in Oregon during the twelve (12) calendar months immediately preceding submission of the bid, has a business address in the state, and has stated in the bid whether the Bidder is a "Resident Bidder" pursuant to ORS 279A.120(1)(b).

- 22. The Bidder understands that Oregon law requires all contractors must be registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board in order to submit a bid to do work as a contractor. Bidder's Construction Contractors Board registration number is: _____. Bidder's State Landscape Contractors Board license number is: _____.
- 23. Bidder hereby certifies that Bidder will meet the requirements of ORS 279C.838 and 279C.840 in performance of the Contract, if awarded.

The undersigned hereby represents that he/she is fully authorized to sign this Bid Proposal on behalf of Bidder and to bind Bidder hereby as provided herein.

In witness hereto, the undersigned has set his/her hand this ____ day of _____, 2018.

Name: _____

Address: _____

Signature of Bidder

Title

- 24. The Bidder acknowledges the following Addenda are included as part of these Contract Documents. Initial and date as acknowledging receipt of Addenda.

No. _____ Date: _____

No. _____ Date: _____

No. _____ Date: _____

No. _____ Date: _____

-End of Section-

-- This page intentionally left blank --

BID SCHEDULE

Bid Item No.	Bid Items	Unit	Quantity	Unit Cost	Total Cost
1	Wilsonville City Hall Renovation	LS	1	_____	_____
2	Alternate 1 (Section 01 23 00 – Alternates)	LS	1	_____	_____
3	Alternate 2 (Section 01 23 00 – Alternates)	LS	1	_____	_____

Total Amount Bid (Figures) _____

Total Bid Written in Words:

_____ Dollars AND Cents

Company Name

Bidder's Signature

-- This page intentionally left blank --

BID BOND FORM

BID BOND

Herewith find a Bid Bond deposit in the form of a cashier's check or bid bond in the amount of \$ _____ which amount is not less than ten percent (10%) of the total bid.

Bidder Signature

.....
BID BOND No. _____

KNOW ALL MEN BY THESE PRESENTS:

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

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

SIGNED, SEALED AND DATED THIS _____ DAY OF _____, 20____.

Principal _____

Principal Representative Name and Title _____

Principal Signature _____

Surety _____

Address: _____

Phone No.: _____

Fax No.: _____

Email: _____

Surety Attorney-in-Fact Name _____

Surety Signature _____

.....

Received return of deposit in the sum of \$ _____
this _____ day of _____, 20 ____.

Signed _____

ATTACH BID BOND TO THIS PAGE.

-End of Section-

I state that the above-named firm understands and acknowledges that the above representations are material and important, and will be relied on by the City of Wilsonville in awarding the Contract(s) for which this bid is submitted. I understand, and my firm understands, that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the City of Wilsonville of the true facts relating to this submission of bids for this Contract.

I make these statements under penalty of perjury.

Signature

Print Name

Title

STATE OF OREGON)
) ss
County of _____)

Sworn to and subscribed before me this _____ day of _____, 20____.

Notary Public for Oregon

INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT

1. This Non-Collusion Affidavit ("Affidavit") is material to any contract awarded pursuant to this bid. According to the Oregon Public Contracts and Purchasing Laws, a public contracting agency may reject any or all bids on a finding of the agency that it is in the public interest to do so. ORS 279C.395. This agency finds that it is in the public interest to require the completion of this Affidavit by potential contractors.
2. This Affidavit must be executed by the member, officer, or employee of the Bidder who makes the final decision on prices and the amount quoted in the bid.
3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids, are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself/herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the Bidder with responsibilities for the preparation, approval, or submission of the bid.
4. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the Bid Documents, and an Affidavit must be submitted separately on behalf of each party.
5. The term "complementary bid," as used in the Affidavit, has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or non-competitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.
7. A completed, signed, and notarized Affidavit must be submitted with the bid before the bid opening.

-- This page intentionally left blank --

**CERTIFICATION REGARDING CONTRACTOR'S STATUS
SUSPENSION/DEBARMENT**

Wilsonville City Hall Renovation

City of Wilsonville Project 8130, 8131, 8132

This Contract may be a covered transaction for purposes of 2 CFR Part 180. As such, the Contractor must comply with and facilitate compliance with U.S. Department of Transportation regulations, "Nonprocurement Suspension and Debarment" (2 CFR Part 1200), which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)" (2 CFR Part 180). The Contractor is required to verify that its principals, affiliates, and any subcontractors are eligible to participate in this federally funded Contract and are not presently declared by any federal department or agency to be debarred, suspended, proposed for debarment, voluntarily excluded, disqualified, or declared ineligible from participation in any federally assisted award.

Contractor is required to comply with Subpart C of 2 CFR Part 180, as supplemented by 2 CFR Part 1200, and must include the requirement to comply with Subpart C of 2 CFR Part 180 in any lower tier covered transaction it enters into. By signing and submitting its bid or proposal, Contractor has certified as follows:

The certification in this clause is a material representation of fact relied upon by the City of Wilsonville. If it is later determined that the Bidder knowingly rendered an erroneous certification, in addition to remedies available to the City of Wilsonville, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The Bidder agrees to comply with the requirements of 2 CFR Part 180, Subpart C, as supplemented by 2 CFR Part 1200, while this offer is valid and throughout the period of any contract that may arise from this offer. Contractor further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Bidder or Contractor Signature

Date

Bidder or Contractor Signature

Date

-- This page intentionally left blank --

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

(OAR 137-049-0360)

Bids which are submitted by Bid Closing, but for which a required disclosure submittal has not been made by the specified Disclosure Deadline, are not responsive and shall not be considered for contract award.

AGENCY SUPPLIED INFORMATION:

PROJECT NAME: Wilsonville City Hall Renovation
BID #: [] BID CLOSING: Date: November 26, 2019 Time: 2:00 AM PM
REQUIRED First-Tier Subcontractor Disclosure Deadline: Date: November 26, 2019 Time: 4:00 AM PM
Deliver Form to (Agency): City of Wilsonville, Building Department
Designated Recipient (Person): Dan Carlson Phone #: 503-507-4336
Agency's Address: By Mail/Hand: City of Wilsonville, 29799 SW Town Center Loop East
Wilsonville, OR 97070
The Engineer's Estimate for this total project costs are \$190,000 - \$215,000

INSTRUCTIONS:

The City will insert "N/A" in Engineer's Estimate above if the Contract value is not anticipated to exceed One Hundred Thousand Dollars (\$100,000). Otherwise this form must be submitted either with the bid or within two (2) working hours after the advertised Bid Closing date and time; but no later than the DISCLOSURE DEADLINE stated above.

Bidders are required to disclose information about certain first-tier subcontractors (see ORS 279C.370). Specifically, when the contract amount of a first-tier subcontractor furnishing labor or labor and materials would be greater than or equal to: (i) five percent (5%) of the project bid but at least \$15,000; or (ii) \$350,000 regardless of the percentage, the Bidder must disclose the following information about that subcontractor, either in its bid submission or within two hours after Bid Closing:

- (a) The subcontractor's name;
- (b) The category of Work that the subcontractor would be performing; and
- (c) The dollar value of the subcontract. If the Bidder will not be using any subcontractors that are subject to the above disclosure requirements, the Bidder is required to indicate "NONE" on the accompanying form.

THE CITY MUST REJECT A BID IF THE BIDDER FAILS TO SUBMIT THE DISCLOSURE FORM WITH THIS INFORMATION BY THE STATED DEADLINE (see OAR 137-0490-0360).

This document shall NOT be submitted by facsimile. It is the responsibility of Bidders to submit this disclosure form and any additional sheets, with the bid number and Project name clearly marked, at the location indicated by the specified disclosure deadline. See "Instructions to Bidders."

A subcontractor may file a complaint under ORS 279C.590 based on the disclosure requirement of ORS 279C.370(1).

List below the Name, Category of Work, and Dollar Value for each first-tier subcontractor that would be furnishing labor, or labor and material, for which disclosure is required. Enter the word "NONE" if there are no first-tier subcontractors subject to disclosure. ATTACH ADDITIONAL SHEETS IF NECESSARY.

BIDDER DISCLOSURE:

	SUBCONTRACTOR NAME	ADDRESS	CCB#	CATEGORY OF WORK	DOLLAR VALUE
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____

The above listed first-tier subcontractor(s) are providing labor, or labor and materials, with a Dollar Value equal to or greater than:

- a) Five percent (5%) of the total Contract Price, but at least Fifteen Thousand Dollars (\$15,000). *[If the Dollar Value is less than \$15,000 do not list the subcontractor above.]*

OR:

- b) Three Hundred Fifty Thousand Dollars (\$350,000), regardless of the percentage of the total Contract Price.

Form Submitted By (Bidder Name): _____

Contact Name: _____ Phone #: _____

Section II – Contract

-- This page intentionally left blank --

**CITY OF WILSONVILLE
CONSTRUCTION CONTRACT (CIP #8130-32)**

This Construction Contract (“Contract”) for the City Hall Renovation Project (“Project”) is made and entered into on this _____ day of _____ 2019 (“Effective Date”) by and between the **City of Wilsonville**, a municipal corporation of the State of Oregon (hereinafter referred to as the “City”), and _____, a(n) _____ [state] _____ [corporation/limited liability company, etc.] (hereinafter referred to as “Contractor”).

RECITALS

WHEREAS, the City issued a formal Invitation to Bid for the Project described herein; and

WHEREAS, Contractor represents that Contractor is qualified to perform the services described in the Invitation to Bid on the basis of specialized experience and technical expertise; and

WHEREAS, after reviewing all bids submitted in accordance with the Invitation to Bid, the City has determined this Contract shall be awarded to Contractor; and

WHEREAS, Contractor is prepared to perform this Contract in accordance with all the terms and conditions as set forth below, as the City does hereinafter require.

NOW, THEREFORE, in consideration of these mutual promises and the terms and conditions set forth herein, the parties agree as follows:

AGREEMENT

Section 1. Contract Documents

This Contract includes and incorporates by reference all of the foregoing Recitals and all of the following additional “Contract Documents”: Specifications and Contract Documents for City Hall Renovation Project, dated _____, including Plans and Details bound separately; Contractor’s Bid submitted in response thereto; 2015 City of Wilsonville Public Works Standards, City of Wilsonville Special Provisions; Project Specific Special Provisions; and the provisions of Oregon Revised Statutes (ORS) 279C, as more particularly set forth in this Contract. Contractor must be familiar with all of the foregoing and comply with them. Any conflict or inconsistency between the Contract Documents shall be called to the attention of the City by Contractor before proceeding with affected work. All Contract Documents should be read in concert and Contractor is required to bring any perceived inconsistencies to the attention of the City before executing this Contract. In the event a provision of this Contract conflicts with standards or requirements contained in any of the foregoing Contract Documents, the provision that is more favorable to the City, as determined by the City, will apply.

Section 2. Term

The term of this Contract shall be from the Effective Date until all work required to be performed hereunder (“Work”) is completed and accepted, or no later than April 3, 2020, whichever occurs first, unless earlier terminated in accordance herewith or an extension of time is agreed to, in writing, by the City. Contractor shall diligently perform the Work according to the requirements and deliverable dates identified in the Contract Documents. All Work must be at Final Completion by no later than April 3, 2020. See **Section 22** for the definition of Final Completion.

Section 3. Contractor’s Work

3.1. Contractor will perform the Work as more particularly described herein and in the other Contract Documents for the Project.

3.2. All written documents, drawings, and plans submitted by Contractor in conjunction with the Work shall bear the signature, stamp, or initials of Contractor’s authorized Project Manager. Any documents submitted by Contractor that do not bear the signature, stamp, or initials of Contractor’s authorized Project Manager, will not be relied upon by the City. Interpretation of plans and answers to questions regarding the Work given by Contractor’s Project Manager may be verbal or in writing, and may be relied upon by the City, whether given verbally or in writing. If requested by the City to be in writing, Contractor’s Project Manager will provide such written documentation.

3.3. The existence of this Contract between the City and Contractor shall not be construed as the City’s promise or assurance that Contractor will be retained for future services beyond the Work described herein.

3.4. Contractor shall maintain the confidentiality of any confidential information that is exempt from disclosure under state or federal law to which Contractor may have access by reason of this Contract. Contractor warrants that Contractor’s employees assigned to perform any of the Work provided in this Contract shall be clearly instructed to maintain this confidentiality. All agreements with respect to confidentiality shall survive the termination or expiration of this Contract.

Section 4. Contract Sum, Retainage, and Payment

4.1. Except as otherwise set forth in this **Section 4**, the City agrees to pay Contractor on a time and materials basis, guaranteed not to exceed _____ DOLLARS (\$_____) for performance of the Work (“Contract Sum”). Any compensation in excess of the Contract Sum will require an express written Change Order between the City and Contractor.

4.2. During the course of Contractor’s performance, if the City, through its Project Manager, specifically requests Contractor to provide additional services beyond the Work described in the Contract Documents, Contractor shall provide such additional services and bill the City a reasonable agreed upon fee, pursuant to a written Change Order, executed in compliance with the provisions of **Section 23**.

4.3. Contractor will be paid for Work for which an itemized invoice is received by the City within thirty (30) days of receipt, unless the City disputes such invoice, less a five percent (5%) withholding for retainage. Retainage shall be as outlined in the Contract Documents and as specified under ORS 279C.550 to 279C.570. If the City disputes an invoice, the undisputed portion of the invoice will be paid by the City within the above timeframe, less the retainage. The City will set forth its reasons for the disputed claim amount and make good faith efforts to resolve the invoice dispute with Contractor as promptly as is reasonably possible. Final payment will be held until completion of the final walkthrough, as described in **Section 22**.

4.4. Except as provided in **Section 8.2**, the Contract Price includes the cost of all required fees payable to governmental agencies, including but not limited to plan checking, land use, zoning, permitting, and all other similar fees required to perform the Work on the Project.

4.5. The City will be responsible for the direct payment of required fees payable to governmental agencies, including but not limited to plan checking, land use, zoning, permitting, and all other similar fees resulting from this Project that are not specifically otherwise provided for in the Contract Documents.

4.6. Contractor's Contract Sum and Rate Schedule are all inclusive and include, but are not limited to, all work-related costs, expenses, salaries or wages, plus fringe benefits and contributions, including payroll taxes, workers compensation insurance, liability insurance, profit, pension benefits, and all other contributions and benefits, office expenses, travel expenses, mileage, and all other indirect and overhead charges.

4.7. Contract provisions regarding payment policies, progress payments, interest, etc. are as outlined in the 2015 City of Wilsonville Public Works Standards and in ORS 279C.570.

Section 5. Prevailing Wages

This is a Contract for a Public Works Project, subject to ORS 279C.800 to 279C.870. Therefore, not less than the current applicable state prevailing wage must be paid on this Project. Wage rates for this project are those published by the Bureau of Labor and Industries (BOLI), effective July 1, 2019, and all subsequent amendments. The BOLI prevailing wage rate for public works contracts can be found at the following website: http://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx. Because this is a public works contract subject to payment of prevailing wages, each worker in each trade or occupation employed in the performance of the Work, either by Contractor, a subcontractor, or other person doing or contracting to do, or contracting for the whole or any part of the Work, must be paid not less than the applicable state prevailing wage for an hour's work in the same trade or occupation in the locality where such labor is performed, in accordance with ORS 279C.838 and 279C.840, if applicable. Contractor must comply with all public contracting wages required by law. Contractor and any subcontractor, or their sureties, shall file a certificate of rate of wage as required by ORS 279C.845. If the City determines at any time that the prevailing rate of wages has not been or is not being paid as required herein, it may retain from the moneys due to Contractor an amount sufficient to make up the difference between the

wages actually paid and the prevailing rate of wages, and may also cancel the Contract for breach. Contractor shall be liable to the workers affected for failure to pay the required rate of wage, including all fringe benefits under ORS 279C.840(5). Contractor must include a contract provision in compliance with this paragraph in every subcontract and shall require each subcontractor to include it in subcontract(s).

See **Contractor's Responsibilities** below and other Contract Documents for additional requirements and responsibilities regarding compliance with wage and hour laws and regulations.

Section 6. Filing of Certified Statement

As required in ORS 279C.845(7), the City will retain twenty-five percent (25%) of any amount earned by Contractor under the Contract until Contractor has filed the certified statements required in ORS 279C.845(1). The City will pay to Contractor the amount withheld within fourteen (14) days after Contractor files the required certified statements. As required in ORS 279C.845(8), Contractor shall retain twenty-five percent (25%) of any amount earned by a first-tier subcontractor on the Project until the first-tier subcontractor has filed with the City the certified statements required in ORS 279C.845(1). Before paying any amount withheld, Contractor shall verify that the first-tier subcontractor has filed the certified statement. Within fourteen (14) days after the first-tier subcontractor files the required certified statement, Contractor shall pay the first-tier subcontractor any amount withheld. Contractor shall require all other sub-subcontractors to file certified statements regarding payment of prevailing wage rates with the City.

Section 7. Reports to Department of Revenue

When a public contract is awarded to a nonresident bidder and the contract price exceeds Ten Thousand Dollars (\$10,000), Contractor shall promptly report to the Department of Revenue, on forms to be provided by the Department, the total contract price, terms of payment, length of contract, and such other information as the Department may require, before the City will make final payment on the Contract.

Section 8. City's Rights and Responsibilities

8.1. The City will designate a Project Manager to facilitate day-to-day communication between Contractor and the City, including timely receipt and processing of invoices, requests for information, and general coordination of City staff to support the Project.

8.2. If applicable, the City will pay the required Bureau of Labor and Industries fee of one-tenth of one percent (0.1%) of the Contract Sum, or as required by statute.

8.3. The City reserves the right to reject any bid or to refuse delivery of materials or services at or from any manufacturer, supplier, or contractor with which the City has reasonable grounds to believe is or may be operating in violation of any local, state, or federal law or which is the subject of pending litigation.

8.4. If Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a subcontractor by any person in connection with the Contract as such claim becomes due, the City may, but shall not be obligated to, pay such claim to the person furnishing the labor or services and charge the amount of the 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 Contractor or its surety from the obligation with respect to any unpaid claim. If the City is unable to determine the validity of any claim for labor or services furnished, the City 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 by Contractor or the City. There shall be no final acceptance of the Work under the Contract until all such claims have been resolved.

8.5. Award of this Contract is subject to budget appropriation. Funds are approved for Fiscal Year 2019-20. If not completed within this fiscal year, funds may not be appropriated for the next fiscal year. The City also reserves the right to terminate this Contract early, as described in Section 20.

Section 9. City's Project Manager

The City's Project Manager is Dan Carlson. The City shall give Contractor prompt written notice of any re-designation of its Project Manager.

Section 10. Contractor's Project Manager

Contractor's Project Manager is _____. In the event that Contractor's Project Manager is changed, Contractor shall give the City prompt written notification of such re-designation. Recognizing the need for consistency and knowledge in the administration of the Project, Contractor's Project Manager will not be changed without the written consent of the City, which consent shall not be unreasonably withheld. In the event the City receives any communication from Contractor that is not from Contractor's Project Manager, the City may request verification by Contractor's Project Manager, which verification must be promptly furnished.

Section 11. Project Information

Except for confidential information designated by the City as information not to be shared, Contractor agrees to share Project information with, and to fully cooperate with, those corporations, firms, contractors, public utilities, governmental entities, and persons involved in the Project. No information, news, or press releases related to the Project, whether made to representatives of newspapers, magazines, or television and radio stations, shall be made without the written authorization of the City's Project Manager.

Section 12. Duty to Inform

If at any time during the performance of this Contract, Contractor becomes aware of actual or potential problems, faults, environmental concerns, or defects in the Project, Contract Documents, or Work, or any portion thereof; or of any nonconformance with federal, state, or local laws, rules, or regulations; or if Contractor has any objection to any decision or order

made by the City with respect to such laws, rules, or regulations, Contractor shall give prompt written notice thereof to the City's Project Manager. Any delay or failure on the part of the City to provide a written response to Contractor shall neither constitute agreement with nor acquiescence to Contractor's statement or claim, nor constitute a waiver of any of the City's rights.

Section 13. Subcontractors and Assignments

13.1. Unless expressly authorized in writing by the City, pursuant to **Subsection 14.3**, Contractor shall not subcontract with others for any of the Work prescribed herein. Contractor shall not assign any of Contractor's rights acquired hereunder without obtaining prior written approval from the City. Some Work may be performed by persons other than Contractor, provided Contractor advises the City of the names of such subcontractors and the services which they intend to provide, and the City specifically agrees, in writing, to such subcontracting. Contractor acknowledges such services will be provided to the City pursuant to a subcontract(s) between Contractor and subcontractor(s) and no privity of contract exists between the City and the subcontractor(s). Unless otherwise specifically provided by this Contract, the City incurs no liability to third persons for payment of any compensation provided herein to Contractor. Any attempted assignment of this Contract without the written consent of the City shall be void. Except as otherwise specifically agreed, all costs for services performed by others on behalf of Contractor shall not be subject to additional reimbursement by the City.

13.2. The City shall have the right to enter into other agreements for the Project, to be coordinated with this Contract. Contractor shall cooperate with the City and other firms, engineers, or subcontractors on the Project so that all portions of the Project may be completed in the least possible time and within normal working hours. Contractor shall furnish other engineers, subcontractors, and affected public utilities, whose designs are fitted into Contractor's design, detail drawings giving full information so that conflicts can be avoided.

Section 14. Contractor's Responsibilities

This Contract is a public works contract governed by the laws found at ORS Chapter 279C, which Contractor must be familiar with and adhere to. Those required provisions include but are not limited to all of the following:

14.1. Except as otherwise provided under ORS 30.265, the performance under this Contract is at Contractor's sole risk. All damages or loss to Work, equipment, or materials incurred during the performance of the Work shall be at Contractor's sole risk. Any injury to persons or property incurred during the performance of the Work shall be at Contractor's sole risk. The service or services to be rendered under the Contract are those of an independent contractor who is not an officer, employee, or agent of the City, as those terms are used in ORS 30.265. Notwithstanding the Oregon Tort Claims Act or provisions of any other contract, Contractor is acting as and assumes liability of an independent contractor as to claims between the City and Contractor. Contractor is solely liable for any workers compensation coverage, social security, unemployment insurance or retirement payments, and federal or state taxes due as a result of payments under the Contract. Any subcontractor hired by Contractor shall be

similarly responsible. Contractor shall be liable to the City for any failure of any subcontractor(s) to comply with the terms of the Contract.

14.2. Contractor is an independent contractor for all purposes and shall be entitled to no compensation other than the Contract Sum provided for under **Section 4** of this Contract. Contractor will be solely responsible for determining the manner and means of accomplishing the end result of Contractor's Work. The City does not have the right to control or interfere with the manner or method of accomplishing said Work. The City, however, will have the right to specify and control the results of Contractor's Work so such Work meets the requirements of the Project.

14.3. The City understands and agrees that Contractor may request that some Work be performed on the Project by persons or firms other than Contractor, through a subcontract with Contractor. Contractor acknowledges that if such Work is provided to the City pursuant to a subcontract(s) between Contractor and those who provide such services, Contractor may not utilize any subcontractor(s), or in any way assign its responsibility under this Contract, without first obtaining the express written consent of the City. In all cases, processing and payment of billings from subcontractors is solely the responsibility of Contractor. References to "subcontractor" in this Contract mean a subcontractor at any tier.

14.4. Contractor shall be responsible for, and defend, indemnify, and hold the City harmless against, any liability, cost, or damage arising out of Contractor's use of such subcontractor(s) and subcontractor's negligent acts, errors, or omissions. Unless otherwise agreed to, in writing, by the City, Contractor shall require that all of Contractor's subcontractors also comply with, and be subject to, the provisions of this **Section 14** and meet the same insurance requirements of Contractor under this Contract.

14.5. Contractor must make prompt payment for any claims for labor, materials, or services furnished to Contractor by any person in connection with this Contract as such claims become due. Contractor shall not permit any liens or claims to be filed or prosecuted against the City on account of any labor or material furnished to or on behalf of Contractor. If Contractor fails, neglects, or refuses to make prompt payment of any such claim, the City may pay such claim to the person furnishing the labor, materials, or services, and offset the amount of the payment against funds due, or to become due, to Contractor under this Contract. The City may also recover any such amounts directly from Contractor.

14.6. Contractor must comply with all Oregon and federal wage and hour laws, including BOLI wage requirements, if applicable. Contractor shall make all required workers compensation and medical care payments on time. Contractor shall be fully responsible for payment of all employee withholdings required by law, including but not limited to taxes, including payroll, income, Social Security (FICA), and Medicaid. Contractor shall also be fully responsible for payment of salaries, benefits, taxes, and all other charges due on account of any employees. Contractor shall pay all contributions or amounts due the Industrial Accident Fund from Contractor or subcontractor incurred in the performance of this Contract. Contractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167. All costs incident to the hiring of subcontractors or employees shall be Contractor's responsibility. Contractor shall defend, indemnify, and hold the City harmless from claims for payment of all such expenses.

14.7. No person shall be discriminated against by Contractor or any subcontractor in the performance of this Contract on the basis of sex, gender, race, color, creed, religion, marital status, age, disability, sexual orientation, gender identity, or national origin. Any violation of this provision shall be grounds for cancellation, termination, or suspension of the Contract, in whole or in part, by the City. Contractor shall comply with all federal, state, and local laws, regulations, executive orders, and ordinances applicable to the Contract or to the implementation of the Project. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following laws, regulations, and executive orders to the extent they are applicable to the Contract or the implementation of the Project: (a) all applicable requirements of state civil rights and rehabilitation statutes, rules, and regulations; (b) Titles VI and VII of the Civil Rights Act of 1964, as amended; (c) Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; (d) the Americans with Disabilities Act of 1990, as amended, and ORS 659A.142; (e) Executive Order 11246, as amended; (f) the Health Insurance Portability and Accountability Act of 1996; (g) the Age Discrimination in Employment Act of 1967, as amended, and the Age Discrimination Act of 1975, as amended; (h) the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended; (i) all regulations and administrative rules established pursuant to the foregoing laws; and (j) all other applicable requirements of federal civil rights and rehabilitation statutes, rules, and regulations.

14.8. Contractor certifies that Contractor has not discriminated against minority, women, or small business enterprises in obtaining any subcontract.

14.9. Pursuant with ORS 279C.505(2), by execution of this Contract, Contractor agrees to have an employee drug testing program in place at the time of executing the Contract, acknowledges that such a program will be maintained throughout the Contract period, including any extensions, and shall demonstrate to the City that such drug testing program is in place. The failure of Contractor to have, or to maintain, such a drug-testing program is grounds for immediate termination of the Contract. Contractor shall require each subcontractor providing labor for the Project to also comply with this drug testing program requirement.

14.10. Contractor agrees that the City shall not be liable, either directly or indirectly, in any dispute arising out of the substance or procedure of Contractor's drug testing program. Nothing in this drug testing provision shall be construed as requiring Contractor to violate any legal, including constitutional, rights of any employee, including but not limited to selection of which employees to test and the manner of such testing. The City shall not be liable for Contractor's negligence in establishing or implementing, or failure to establish or implement, a drug testing policy or for any damage or injury caused by Contractor's employees acting under the influence of drugs while performing Work covered by the Contract. These are Contractor's sole responsibilities, and nothing in this provision is intended to create any third party beneficiary rights against the City.

14.11. Contractor is solely responsible for ensuring that any subcontractor selection and substitution is in accordance with all legal requirements. The City shall not be liable, either directly or indirectly, in any dispute arising out of Contractor's actions with regard to subcontractor selection and/or substitution.

14.12. Contractor shall make payment promptly, as due, to all parties supplying to such Contractor labor or material for the prosecution of the Work provided for in the Contract Documents, and shall be responsible for payment to such persons supplying labor or material to any subcontractor.

14.13. By execution of this Contract, as required by ORS 305.385(6), Contractor certifies under penalty of perjury that to the best of Contractor's knowledge, Contractor is not in violation of any tax laws described in ORS 305.380(4).

14.14. Contractor agrees that if Contractor or a first-tier subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with this Contract within thirty (30) days after receiving payment from the City or a contractor, Contractor or the first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the ten (10) day period within which payment is due under ORS 279C.580(3)(a) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest on the amount due shall be calculated in accordance with ORS 279C.515(2). The amount of interest may not be waived.

14.15. Contractor agrees that if Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this Contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

14.16. Contractor shall make payment promptly, as due, to any party furnishing medical, surgical, hospital, or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums which Contractor agreed to pay or collected or deducted from the wages of employees pursuant to any law, contract, or agreement for the purpose of providing payment for such service.

14.17. Contractor and all subcontractors shall comply with the provisions of ORS 279C.540 pertaining to maximum hours, holidays, and overtime. With certain exceptions listed below, Contractor shall not require or permit any person to work more than ten (10) hours in any one (1) day, or forty (40) hours in any one (1) week, except in case of necessity, emergency, or where public policy requires it, and in such cases the person shall be paid at least time and a half for:

14.17.1. All overtime in excess of eight (8) hours in any one (1) day or forty (40) hours in any one (1) week when the work week is five (5) consecutive days, Monday through Friday; or

14.17.2. All overtime in excess of ten (10) hours in any one (1) day or forty (40) hours in any one (1) week when the work week is four (4) consecutive days, Monday through Friday; and

14.17.3. All work performed on the days specified in ORS 279C.540(1)(b) for public improvement contracts.

14.18. Contractor and all subcontractors shall comply with the provisions of ORS 279C.545 pertaining to time limitation on claims for overtime and requirements for posting circulars containing said provisions.

14.19. For personal/professional service contracts, as designated under ORS 279A.055, instead of 14.17.1, 14.17.2, and 14.17.3 above, a laborer shall be paid at least time and a half for all overtime worked in excess of forty (40) hours in any one (1) week, except for individuals under these contracts who are excluded under ORS 653.010 to 653.261 or under 29 USC §§ 201 to 209 from receiving overtime.

14.20. Contractor shall follow all other exceptions, pursuant to ORS 279B.235 (for non-public improvement contracts) and ORS 279C.540 (for public improvement contracts), including contracts involving a collective bargaining agreement, contracts for services, and contracts for fire prevention or suppression.

14.21. Contractor must give notice to employees who work on a public 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 days per week that the employees may be required to work.

14.22. The hourly rate of wage to be paid by any Contractor or subcontractor to employed workers or other persons doing or contracting to do all or part of the work contemplated by a public contract shall be not less than the applicable wage required by law.

14.23. Contractor, its subcontractors, and all employers working under the Contract are subject employers under the Oregon Workers Compensation Law and shall comply with ORS 656.017 and provide the required workers compensation coverage, unless otherwise exempt under ORS 656.126. Contractor shall ensure that each of its subcontractors complies with these requirements.

14.24. In the performance of this Contract, Contractor shall comply with all applicable federal, state, and local laws, municipal codes, regulations, rules, and ordinances, including but not limited to those dealing with public contracts (ORS Chapter 279C) and with the prevention of environmental pollution and the preservation of natural resources (and avoidance of natural resource damages) in the performance of the Contract, including but not limited to ORS 279C.525. To the extent that known environmental and natural resource risks are specifically noted, shown, or specified in the Contract Documents or on the construction drawings, such risks are allocated to Contractor pursuant with ORS 279C.525(8)(a). If new or amended statutes, ordinances, rules, or regulations are adopted, or Contractor encounters a condition not referred to in this Contract, not caused by Contractor, and that was not discoverable by reasonable site inspection which requires compliance with federal, state, or local laws, codes, or regulations dealing with the preservation of the environment, both the City and Contractor shall have all the rights and obligations set forth in ORS 279C.525.

14.25. Contractor shall be liable for any fine imposed against Contractor, the City or the 'Project' as a result of a violation of any laws or permitting requirements by Contractor or any of its subcontractors or their sub-subcontractors or any suppliers.

14.26. Pursuant to ORS 279B.055, Contractor shall use recyclable products to the maximum extent economically feasible, and in full conformance with the Contract Document Specifications, in the performance of the Work.

Section 15. Subcontractor Requirements

15.1. If subcontractors are permitted, Contractor's relations with subcontractors shall comply with ORS 279C.580. Pursuant with ORS 279C.580(3), each subcontract for property or services that Contractor enters into with a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract, shall include:

15.1.1. A payment clause that obligates Contractor to pay the first-tier subcontractor for satisfactory performance under the subcontract within ten (10) days out of such amounts as are paid to Contractor by the City under the public improvement contract; and

15.1.2. An interest penalty clause that obligates Contractor, if payment is not made within 30 days after receipt of payment from the City, to pay to the first-tier subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause outlined in **Subsection 15.1.1** above. A contractor or first-tier subcontractor may not be obligated to pay an interest penalty if the only reason that the contractor or first-tier subcontractor did not make payment when payment was due is that the contractor or first-tier subcontractor did not receive payment from the City or Contractor when payment was due. The interest penalty period shall begin on the day after the required payment date and end on the date on which payment of the amount due is made and shall be computed at the rate specified in ORS 279C.515(2).

15.2. Contractor shall include in each subcontract, as a condition of performance of such contract, a provision requiring the first-tier subcontractor to include a payment clause and interest penalty clause, conforming to the standards set forth in **Subsections 15.1.1 and 15.1.2** above, in each of its subcontracts and requiring that the same clauses be included in any of the first-tier subcontractors' subcontracts with a lower-tier subcontractor or supplier.

15.3. Contractor shall certify that all subcontractors, as described in ORS 701.005(2), will be registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board in accordance with ORS 701.035 or 701.026, respectively, before the subcontractors commence Work under the Contract.

15.4. In no event shall any subcontract be awarded to any person or entity debarred, suspended, or disqualified from federal, state, or municipal contracting.

15.5. Contractor shall include this Contract by reference in any subcontract and require subcontractors to perform in strict compliance with this Contract.

Section 16. Indemnity

16.1. Indemnification. Contractor acknowledges responsibility for liability arising out of the performance of this Contract, and shall defend, indemnify, and hold the City harmless from any and all liability, settlements, loss, costs, and expenses in connection with any action, suit, or claim resulting or allegedly resulting from Contractor's negligent acts, omissions, errors, or willful or reckless misconduct pursuant to this Contract, or from Contractor's failure to perform its responsibilities as set forth in this Contract. The review, approval, or acceptance by the City, its Project Manager, or any City employee of documents or other work performed, prepared, or submitted by Contractor shall not be considered a negligent act, error, omission, or willful misconduct on the part of the City, and none of the foregoing shall relieve Contractor of its responsibility to perform in full conformity with the City's requirements, as set forth in this Contract, and to indemnify the City as provided above and to reimburse the City for any and all costs and damages suffered by the City as a result of Contractor's negligent performance of this Contract, failure of performance hereunder, violation of state or federal laws, or failure to adhere to the standards of performance and care described in **Subsection 16.2**. Contractor shall defend the City (using legal counsel reasonably acceptable to the City) against any claim that alleges negligent acts, omissions, errors, or willful or reckless misconduct by Contractor. As used herein, the term "Contractor" applies to Contractor and its own agents, employees, and suppliers, and to all of Contractor's subcontractors, including their agents, employees, and suppliers.

16.2. Standard of Care. In the performance of the Work, Contractor agrees to use at least that degree of care and skill exercised under similar circumstances by reputable members of Contractor's profession practicing in the Portland metropolitan area. Contractor will re-perform any Work not meeting this standard without additional compensation. Contractor's re-performance of any Work, even if done at the City's request, shall not be considered as a limitation or waiver by the City of any other remedies or claims it may have arising out of Contractor's failure to perform in accordance with the applicable standard of care of this Contract and within the prescribed timeframe.

Section 17. Insurance

17.1. Insurance Requirements. Contractor must maintain insurance coverage acceptable to the City in full force and effect throughout the term of this Contract. Such insurance shall cover all risks arising directly or indirectly out of Contractor's activities or Work hereunder. Any and all agents or subcontractors with which Contractor contracts for any portion of the Work must have insurance that conforms to the insurance requirements in this Contract. Additionally, if a subcontractor is an engineer, architect, or other professional, Contractor must require the subcontractor to carry Professional Errors and Omissions insurance and must provide to the City proof of such coverage. The amount of insurance carried is in no way a limitation on Contractor's liability hereunder. The policy or policies maintained by Contractor shall provide at least the following minimum limits and coverages at all times during performance of this Contract:

17.1.1. Commercial General Liability Insurance. Contractor and all subcontractors shall obtain, at each of their own expense, and keep in effect during the term of this Contract, comprehensive Commercial General Liability Insurance covering

Bodily Injury and Property Damage, written on an “occurrence” form policy. This coverage shall include broad form Contractual Liability insurance for the indemnities provided under this Contract and shall be for the following minimum insurance coverage amounts: The coverage shall be in the amount of **\$2,000,000** for each occurrence and **\$3,000,000** general aggregate and shall include Products-Completed Operations Aggregate in the minimum amount of **\$2,000,000** per occurrence, Fire Damage (any one fire) in the minimum amount of **\$50,000**, and Medical Expense (any one person) in the minimum amount of **\$10,000**. All of the foregoing coverages must be carried and maintained at all times during this Contract.

17.1.2. Professional Errors and Omissions Coverage. Contractor agrees to carry Professional Errors and Omissions Liability insurance on a policy form appropriate to the professionals providing the Work hereunder with a limit of no less than **\$2,000,000** per claim. Contractor shall maintain this insurance for damages alleged to be as a result of errors, omissions, or negligent acts of Contractor. Such policy shall have a retroactive date effective before the commencement of any work by Contractor on the Work covered by this Contract, and coverage will remain in force for a period of at least three (3) years after termination of the Contract.

17.1.3. Business Automobile Liability Insurance. If Contractor or any subcontractors will be using a motor vehicle in the performance of the Work herein, Contractor shall provide the City a certificate indicating that Contractor and its subcontractors have business automobile liability coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per occurrence shall not be less than **\$2,000,000**.

17.1.4. Workers Compensation Insurance. Contractor, its subcontractors, and all employers providing work, labor, or materials under this Contract that are subject employers under the Oregon Workers Compensation Law shall comply with ORS 656.017, which requires them to provide workers compensation coverage that satisfies Oregon law for all their subject workers under ORS 656.126. Out-of-state employers must provide Oregon workers compensation coverage for their workers who work at a single location within Oregon for more than thirty (30) days in a calendar year. Contractors who perform work without the assistance or labor of any employee need not obtain such coverage. This shall include Employer’s Liability Insurance with coverage limits of not less than **\$500,000** each accident.

17.1.5. Insurance Carrier Rating. Coverages provided by Contractor and its subcontractors must be underwritten by an insurance company deemed acceptable by the City, with an AM Best Rating of A or better. The City reserves the right to reject all or any insurance carrier(s) with a financial rating that is unacceptable to the City.

17.1.6. Additional Insured and Termination Endorsements. The City will be named as an additional insured with respect to Contractor’s liabilities hereunder in insurance coverages. Additional Insured coverage under Contractor’s Commercial General Liability, Automobile Liability, and Excess Liability Policies, as applicable, will be provided by endorsement. Additional insured coverage shall be for both ongoing operations via ISO Form CG 2010 or its equivalent, and products and

completed operations via ISO Form CG 2037 or its equivalent. Coverage shall be Primary and Non-Contributory. Waiver of Subrogation endorsement via ISO Form CG 2404 or its equivalent shall be provided. The following is included as additional insured: “The City of Wilsonville, its elected and appointed officials, officers, agents, employees, and volunteers.” An endorsement shall also be provided requiring the insurance carrier to give the City at least thirty (30) days’ written notification of any termination or major modification of the insurance policies required hereunder. Contractor must be an additional insured on the insurance policies obtained by its subcontractors performing any of the Work contemplated under this Contract.

17.1.7. Certificates of Insurance. As evidence of the insurance coverage required by this Contract, Contractor shall furnish a Certificate of Insurance to the City. This Contract shall not be effective until the required certificates and the Additional Insured Endorsements have been received and approved by the City. Contractor agrees that it will not terminate or change its coverage during the term of this Contract without giving the City at least thirty (30) days’ prior advance notice and Contractor will obtain an endorsement from its insurance carrier, in favor of the City, requiring the carrier to notify the City of any termination or change in insurance coverage, as provided above.

17.2. Primary Coverage. The coverage provided by these policies shall be primary, and any other insurance carried by the City is excess. Contractor shall be responsible for any deductible amounts payable under all policies of insurance. If insurance policies are “Claims Made” policies, Contractor will be required to maintain such policies in full force and effect throughout any warranty period.

Section 18. Bonding Requirements

18.1. Payment and Performance Bonds. Contractor shall obtain a Payment Bond and a Performance Bond, each in a form acceptable to the City and from a surety acceptable to the City, and each in the full amount of the Contract Sum.

18.2. Maintenance/Warranty Bond. Contractor shall maintain a three (3) year Maintenance/Warranty Bond, in a form acceptable to the City and from a surety acceptable to the City, in the amount of ten percent (10%) of the Contract Sum.

18.3. Public Works Bond. Pursuant to ORS 279C.830(2), in addition to the Payment and Performance bonds, before starting work on this Contract or any subcontract hereunder, Contractor and all subcontractors, unless exempt under ORS 279C.836(4), (7), (8), or (9), 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 minimum 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 ORS 279C.836, unless the surety sooner cancels the bond. Contractor further certifies that Contractor will include in every subcontract a 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).

18.4. Completion Bond. Contractor shall also maintain a three (3) year Completion Bond, in a form acceptable to the City and from a surety acceptable to the City, in the full amount of the Contract Sum.

18.5. Bond Claims. Any notice of claim on a payment or performance bond or public works bond shall comply with the requirements of ORS 279C.605.

Section 19. Warranty

19.1. Contractor shall provide a full warranty for all Work for a period of three (3) years from the date of Final Acceptance of all Work.

19.2. In addition to, and not in lieu of, any other warranties provided by various manufacturers and suppliers, Contractor fully warrants all Work for a period of three (3) years from the date of Final Acceptance of the Work and shall make all necessary repairs and replacements to remedy, in a manner satisfactory to the City's Project Manager and at no cost to the City, any and all defects, breaks, or failures of the Work occurring within three (3) years following the date of completion due to faulty or inadequate materials or workmanship. Repair of damage or disturbances to other improvements under, within, or adjacent to the Work, whether or not caused by settling, washing, or slipping, when such damage or disturbance is caused, in whole or in part, from activities of Contractor in performing Contractor's duties and obligations under this Contract, is also covered by the warranty when such defects or damage occur within the warranty period. The three (3) year warranty period shall, with relation to such required repair, be extended three (3) years from the date of completion of such repair.

19.3. If Contractor, after written notice, fails within **ten (10) days** to proceed to comply with the terms of this section, the City may have the defects corrected, and Contractor and Contractor's surety shall be liable for all expense incurred. In case of an emergency where, in the opinion of the City's Project Manager, delay would cause serious loss or damage, repairs may be made without notice being given to Contractor, and Contractor or Contractor's surety shall pay the cost of repairs. Failure of the City's Project Manager to act in case of an emergency shall not relieve Contractor or Contractor's surety from liability and payment of all such costs.

19.4. Current State Law (ORS 12.135) provides for a ten (10) year period, from the time of Substantial Completion, for the City to file a claim for repairs of defective Work due to Contractor's improper use of materials and/or workmanship, and Contractor agrees it is bound thereby.

Section 20. Early Termination; Default

20.1. This Contract may be terminated prior to the expiration of the agreed upon terms:

20.1.1. By mutual written consent of the parties;

20.1.2. By the City, for any reason, and within its sole discretion, effective upon delivery of written notice to Contractor by mail or in person. The City retains the right to elect whether or not to proceed with actual construction of the Project; or

20.1.3. By the City if Contractor breaches this Contract and fails to cure the breach within ten (10) days of receipt of written notice of the breach from the City.

20.2. If the City terminates this Contract in whole or in part, due to default or failure of Contractor to perform Work in accordance with the Contract, the City may procure, upon reasonable terms and in a reasonable manner, services similar to those so terminated. In addition to any other remedies the City may have, both at law and in equity, for breach of contract, Contractor shall be liable for all costs and damages incurred by the City as a result of the default by Contractor, including, but not limited to all costs incurred by the City in procuring services from others as needed to complete this Contract. This Contract shall be in full force to the extent not terminated by written notice from the City to Contractor. In the event of a default, the City will provide Contractor with written notice of the default and a period of ten (10) days to cure the default. If Contractor notifies the City that it wishes to cure the default but cannot, in good faith, do so within the ten (10) day cure period provided, then the City may elect, in its sole discretion, to extend the cure period to an agreed upon time period, or the City may elect to terminate this Contract and seek remedies for the default, as provided above.

20.3. If the City terminates this Contract for its own convenience not due to any default by Contractor, payment of Contractor shall be prorated to, and include the day of, termination and shall be in full satisfaction of all claims by Contractor against the City under this Contract.

20.4. Termination under any provision of this section shall not affect any right, obligation, or liability of Contractor or the City that accrued prior to such termination. Contractor shall surrender to the City items of work or portions thereof, referred to in **Section 26**, for which Contractor has received payment or the City has made payment.

Section 21. Suspension of Work

The City may suspend, delay, or interrupt all or any part of the Work for such time as the City deems appropriate for its own convenience by giving written notice thereof to Contractor. An adjustment in the time of performance or method of compensation shall be negotiated as a result of such delay or suspension, unless the reason for the delay was within Contractor's control. The City shall not be responsible for Work performed by any subcontractors after notice of suspension is given by the City to Contractor.

Section 22. Final Completion and Liquidated Damages

22.1. Contractor's Project Manager and City's Project Manager shall conduct a final inspection of the Project when Contractor believes the Work is complete, and create a project corrections list ("punch list") of any remaining items to be completed before the Final

Completion date of April 3, 2020. All punch list items must be fully addressed and corrected on or before the Final Completion date.

22.2. The City and Contractor recognize that time is of the essence of this Contract and that the City will suffer financial loss and public detriment if all Work is not fully completed by April 3, 2020, plus any extensions thereof granted, in writing, by the City. Both parties also recognize the delays, expenses, and difficulties involved in proving in a legal proceeding the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the City and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the City the amount of Five Hundred Dollars (\$500) per day for each and every day that expires after April 3, 2020. Retainage will not be released before Final Completion is established.

22.3. The parties further agree that this amount of liquidated damages is a reasonable forecast of just compensation for the harm caused by any breach and that this harm is one which is impossible or very difficult to estimate. In addition to the liquidated damages above, Contractor shall reimburse the City for all costs incurred by the City for engineering, inspection, and project management services required beyond the time specified for Final Completion. Contractor shall also reimburse the City for all costs incurred for inspection and project management services required due to punch list items not completed within the time allotted for Final Acceptance. If Contractor fails to reimburse the City directly, the City will deduct the cost from Contractor's final pay request.

22.4. Contractor will not be responsible for liquidated damages or be deemed to be in default by reason of delays in performance due to circumstances beyond Contractor's reasonable control, including but not limited to strikes, lockouts, severe acts of nature, or actions of unrelated third parties not under Contractor's direction and control that would preclude any reasonable Contractor from performing the Work ("Force Majeure"). In the case of the happening of any Force Majeure event, the time for completion of the Work will be extended accordingly and proportionately by the City, in writing. Poor weather conditions, unless extreme, lack of labor, supplies, materials, or the cost of any of the foregoing shall not be deemed a Force Majeure event.

Section 23. Contract Modification; Change Orders

Any modification of the provisions of this Contract shall not be enforceable or binding unless reduced to writing and signed by both the City and Contractor. A modification is a written document, contemporaneously executed by the City and Contractor, which increases or decreases the cost to the City over the agreed Contract Sum in **Section 4** of this Contract, or changes or modifies the Work described in the Contract Documents or the time for performance. In the event Contractor receives any communication of whatsoever nature from the City, which communication Contractor contends gives rise to any modification of this Contract, Contractor shall, within five (5) days after receipt, make a written request for modification to the City's Project Manager in the form of a Change Order. Contractor's failure to submit such written request for modification in the form of a Change Order shall be the basis for refusal by the City to treat said communication as a basis for modification or to allow such modification. In connection with any modification to this Contract affecting any change in price, Contractor shall submit a complete breakdown of labor, material, equipment, and other

costs. If Contractor incurs additional costs or devotes additional time on Project tasks, the City shall be responsible for payment of only those additional costs for which it has agreed to pay under a signed Change Order. To be enforceable, the Change Order must describe with particularity the nature of the change, any delay in time the Change Order will cause, or any increase or decrease in the Contract Sum. The Change Order must be signed and dated by both Contractor and the City before the Change Order may be implemented.

Section 24. Dispute Resolution

In the event of a dispute concerning performance of this Contract, the parties agree to meet to negotiate the problem. If such negotiation fails, the parties will mediate the dispute using a professional mediator, and the parties will split the cost. If the dispute cannot be resolved in either of the foregoing ways within thirty (30) days, either party may file suit in Clackamas County Circuit Court. In the alternative, at the City’s election, the parties may follow the dispute resolution procedures found in the Special Provisions.

Section 25. Access to Records

The City shall have access, upon request, to such books, documents, receipts, papers, and records of Contractor as are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts during the term of this Contract and for a period of four (4) years after termination of the Contract, unless the City specifically requests an extension. This clause shall survive the expiration, completion, or termination of this Contract.

Section 26. As-Builts

Contractor must provide redlined as-builts prior to Final Acceptance. As-builts should be provided in electronic format.

Section 27. Notices

Any notice required or permitted under this Contract shall be in writing and shall be given when actually delivered in person or forty-eight (48) hours after having been deposited in the United States mail as certified or registered mail, addressed to the addresses set forth below, or to such other address as one party may indicate by written notice to the other party.

To City: City of Wilsonville
Attn: Dan Carlson, Building Official
29799 SW Town Center Loop East
Wilsonville, OR 97070

To Contractor: _____
Attn: _____

Section 28. Miscellaneous Provisions

28.1. Integration. This Contract contains the entire and integrated agreement between the parties and supersedes all prior written or oral discussions, representations, or agreements. In case of conflict among these documents, the provisions of this Contract shall control.

28.2. Legal Effect and Assignment. This Contract shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, personal representatives, successors, and assigns. This Contract may be enforced by an action at law or in equity.

28.3. No Assignment. Contractor may not assign this Contract, nor delegate the performance of any obligations hereunder, unless agreed to in advance and in writing by the City.

28.4. Adherence to Law. This Contract shall be subject to, and Contractor shall adhere to, all applicable federal, state, and local laws (including the Wilsonville Code and Public Works Standards), including but not limited to laws, rules, regulations, and policies concerning employer and employee relationships, workers compensation, and minimum and prevailing wage requirements. Any certificates, licenses, or permits that Contractor is required by law to obtain or maintain in order to perform the Work described in this Contract shall be obtained and maintained throughout the term of this Contract.

28.5. Governing Law. This Agreement shall be construed in accordance with and governed by the laws of the State of Oregon, regardless of any conflicts of laws. All contractual provisions required by ORS Chapters 279A, 279B, 279C, and related Oregon Administrative Rules to be included in public agreements are hereby incorporated by reference and shall become a part of this Agreement as if fully set forth herein.

28.6. Jurisdiction. Venue for any dispute will be in Clackamas County Circuit Court.

28.7. Legal Action/Attorney Fees. If a suit, action, or other proceeding of any nature whatsoever (including any proceeding under the U.S. Bankruptcy Code) is instituted in connection with any controversy arising out of this Contract or to interpret or enforce any rights or obligations hereunder, the prevailing party shall be entitled to recover attorney, paralegal, accountant, and other expert fees and all other fees, costs, and expenses actually incurred and reasonably necessary in connection therewith, as determined by the court or body at trial or on any appeal or review, in addition to all other amounts provided by law. If the City is required to seek legal assistance to enforce any term of this Contract, such fees shall include all of the above fees, whether or not a proceeding is initiated. Payment of all such fees shall also apply to any administrative proceeding, trial, and/or any appeal or petition for review.

28.8. Nonwaiver. Failure by either party at any time to require performance by the other party of any of the provisions of this Contract shall in no way affect the party's rights hereunder to enforce the same, nor shall any waiver by the party of the breach hereof be held to be a waiver of any succeeding breach or a waiver of this nonwaiver clause.

28.9. Severability. If any provision of this Contract is found to be void or unenforceable to any extent, it is the intent of the parties that the rest of the Contract shall remain in full force and effect, to the greatest extent allowed by law.

28.10. Modification. This Contract may not be modified except by written instrument executed by Contractor and the City.

28.11. Time of the Essence. Time is expressly made of the essence in the performance of this Contract.

28.12. Calculation of Time. Except where the reference is to business days, all periods of time referred to herein shall include Saturdays, Sundays, and legal holidays in the State of Oregon, except that if the last day of any period falls on any Saturday, Sunday, or legal holiday observed by the City, the period shall be extended to include the next day which is not a Saturday, Sunday, or legal holiday. Where the reference is to business days, periods of time referred to herein shall exclude Saturdays, Sundays, and legal holidays observed by the City. Whenever a time period is set forth in days in this Contract, the first day from which the designated period of time begins to run shall not be included.

28.13. Headings. Any titles of the sections of this Contract are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.

28.14. Number, Gender and Captions. In construing this Contract, it is understood that, if the context so requires, the singular pronoun shall be taken to mean and include the plural, the masculine, the feminine and the neuter, and that, generally, all grammatical changes shall be made, assumed, and implied to individuals and/or corporations and partnerships. All captions and paragraph headings used herein are intended solely for convenience of reference and shall in no way limit any of the provisions of this Contract.

28.15. Good Faith and Reasonableness. The parties intend that the obligations of good faith and fair dealing apply to this Contract generally and that no negative inferences be drawn by the absence of an explicit obligation to be reasonable in any portion of this Contract. The obligation to be reasonable shall only be negated if arbitrariness is clearly and explicitly permitted as to the specific item in question, such as in the case of where this Contract gives the City "sole discretion" or the City is allowed to make a decision in its "sole judgment."

28.16. Other Necessary Acts. Each party shall execute and deliver to the other all such further instruments and documents as may be reasonably necessary to carry out this Contract in order to provide and secure to the other parties the full and complete enjoyment of rights and privileges hereunder.

28.17. Interpretation. As a further condition of this Contract, the City and Contractor acknowledge that this Contract shall be deemed and construed to have been prepared mutually by each party and it shall be expressly agreed that any uncertainty or ambiguity existing therein shall not be construed against any party. In the event that any party shall take an action, whether judicial or otherwise, to enforce or interpret any of the terms of the contract, the prevailing party shall be entitled to recover from the other party all expenses which it may

reasonably incur in taking such action, including attorney fees and costs, whether incurred in a court of law or otherwise.

28.18. Defined Terms. Capitalized terms not otherwise defined herein shall have the meaning given to them in the Specifications and Contract Documents.

28.19. Entire Agreement. This Contract, all documents attached to this Contract, and all Contract Documents and laws and regulations incorporated by reference herein, represent the entire agreement between the parties.

28.20. Counterparts. This Contract may be executed in one or more counterparts, each of which shall constitute an original Contract but all of which together shall constitute one and the same instrument.

28.21. Authority. Each party signing on behalf of Contractor and the City hereby warrants actual authority to bind their respective party.

The Contractor and the City hereby agree to all provisions of this Contract.

CONTRACTOR:

CITY:

CITY OF WILSONVILLE

By: _____

By: _____

Print Name: _____

Print Name: _____

As Its: _____

As Its: _____

Employer I.D. No. _____

APPROVED AS TO FORM:

Amanda Guile-Hinman, Asst. City Attorney
City of Wilsonville, Oregon

k:\dir\city hall remodel\construction\doc\ck ch renovation-bid (ag^).docx

-- This page intentionally left blank --

Section III – Special Provisions

-- This page intentionally left blank --

Table of Contents

<u>DESCRIPTION</u>	<u>SECTION PAGES</u>
SECTION III – SPECIAL PROVISIONS	
TABLE OF CONTENTS – GENERAL CONDITIONS	III-3
STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT	III-5
BID ITEM DESCRIPTIONS	III-81
PROJECT SPECIFIC SPECIAL PROVISIONS	III-83

-- This page intentionally left blank --

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	6
1.01 Defined Terms.....	6
1.02 Terminology	11
Article 2—Preliminary Matters	12
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	12
2.02 Copies of Documents	12
2.03 Before Starting Construction	12
2.04 Preconstruction Conference; Designation of Authorized Representatives.....	13
2.05 Acceptance of Schedules	13
2.06 Electronic Transmittals	13
Article 3—Contract Documents: Intent, Requirements, Reuse.....	14
3.01 Intent.....	14
3.02 Reference Standards.....	14
3.03 Reporting and Resolving Discrepancies	15
3.04 Requirements of the Contract Documents.....	15
3.05 Reuse of Documents	16
Article 4—Commencement and Progress of the Work	16
4.01 Commencement of Contract Times; Notice to Proceed.....	16
4.02 Starting the Work.....	16
4.03 Reference Points	16
4.04 Progress Schedule	17
4.05 Delays in Contractor’s Progress	17
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions	18
5.01 Availability of Lands	18
5.02 Use of Site and Other Areas.....	19
5.03 Subsurface and Physical Conditions.....	20
5.04 Differing Subsurface or Physical Conditions	21
5.05 Underground Facilities.....	22

5.06	Hazardous Environmental Conditions at Site	24
Article 6	—Bonds and Insurance.....	26
6.01	Performance, Payment, and Other Bonds	26
6.02	Insurance—General Provisions.....	27
6.03	Contractor’s Insurance.....	29
6.04	Builder’s Risk and Other Property Insurance.....	30
6.05	Property Losses; Subrogation	30
6.06	Receipt and Application of Property Insurance Proceeds	32
Article 7	—Contractor’s Responsibilities	32
7.01	Contractor’s Means and Methods of Construction	32
7.02	Supervision and Superintendence	32
7.03	Labor; Working Hours	32
7.04	Services, Materials, and Equipment	33
7.05	“Or Equals”.....	33
7.06	Substitutes	34
7.07	Concerning Subcontractors and Suppliers.....	36
7.08	Patent Fees and Royalties.....	37
7.09	Permits.....	38
7.10	Taxes	38
7.11	Laws and Regulations.....	38
7.12	Record Documents.....	38
7.13	Safety and Protection	39
7.14	Hazard Communication Programs	40
7.15	Emergencies.....	40
7.16	Submittals	40
7.17	Contractor’s General Warranty and Guarantee	43
7.18	Indemnification.....	44
7.19	Delegation of Professional Design Services	44
Article 8	—Other Work at the Site.....	45
8.01	Other Work	45
8.02	Coordination	46
8.03	Legal Relationships.....	46
Article 9	—Owner’s Responsibilities.....	47

9.01	Communications to Contractor	47
9.02	Replacement of Engineer.....	47
9.03	Furnish Data	47
9.04	Pay When Due.....	47
9.05	Lands and Easements; Reports, Tests, and Drawings	48
9.06	Insurance.....	48
9.07	Change Orders	48
9.08	Inspections, Tests, and Approvals.....	48
9.09	Limitations on Owner’s Responsibilities	48
9.10	Undisclosed Hazardous Environmental Condition.....	48
9.11	Evidence of Financial Arrangements.....	48
9.12	Safety Programs	48
Article 10	—Engineer’s Status During Construction	49
10.01	Owner’s Representative.....	49
10.02	Visits to Site.....	49
10.03	Resident Project Representative.....	49
10.04	Engineer’s Authority	49
10.05	Determinations for Unit Price Work	50
10.06	Decisions on Requirements of Contract Documents and Acceptability of Work	50
10.07	Limitations on Engineer’s Authority and Responsibilities	50
10.08	Compliance with Safety Program.....	50
Article 11	—Changes to the Contract	51
11.01	Amending and Supplementing the Contract	51
11.02	Change Orders	51
11.03	Work Change Directives.....	51
11.04	Field Orders.....	52
11.05	Owner-Authorized Changes in the Work.....	52
11.06	Unauthorized Changes in the Work.....	52
11.07	Change of Contract Price	52
11.08	Change of Contract Times	54
11.09	Change Proposals.....	54
11.10	Notification to Surety.....	55
Article 12	—Claims.....	55

12.01	Claims.....	55
Article 13	—Cost of the Work; Allowances; Unit Price Work	56
13.01	Cost of the Work	56
13.02	Allowances	60
13.03	Unit Price Work.....	60
Article 14	—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work	61
14.01	Access to Work.....	61
14.02	Tests, Inspections, and Approvals.....	61
14.03	Defective Work	62
14.04	Acceptance of Defective Work.....	63
14.05	Uncovering Work	63
14.06	Owner May Stop the Work	63
14.07	Owner May Correct Defective Work.....	64
Article 15	—Payments to Contractor; Set-Offs; Completion; Correction Period	64
15.01	Progress Payments.....	64
15.02	Contractor’s Warranty of Title	67
15.03	Substantial Completion.....	67
15.04	Partial Use or Occupancy	68
15.05	Final Inspection	69
15.06	Final Payment.....	69
15.07	Waiver of Claims	70
15.08	Correction Period.....	71
Article 16	—Suspension of Work and Termination	72
16.01	Owner May Suspend Work	72
16.02	Owner May Terminate for Cause.....	72
16.03	Owner May Terminate for Convenience.....	73
16.04	Contractor May Stop Work or Terminate	73
Article 17	—Final Resolution of Disputes	74
17.01	Methods and Procedures.....	74
Article 18	—Miscellaneous	74
18.01	Giving Notice.....	74
18.02	Computation of Times.....	74
18.03	Cumulative Remedies	74

18.04	Limitation of Damages	75
18.05	No Waiver	75
18.06	Survival of Obligations	75
18.07	Controlling Law	75
18.08	Assignment of Contract.....	75
18.09	Successors and Assigns	75
18.10	Headings.....	75

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

- requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and

recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
 - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and
 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments

during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
 - 1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 - 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 - 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
 - 1. The circumstances that form the basis for the requested adjustment;
 - 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 - 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 - 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 - 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings*: The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
- a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
 1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
 2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

of construction to be employed by Contractor, and safety precautions and programs incident thereto;

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
- 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.
- D. *Resubmittal Procedures for Shop Drawings and Samples*
1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
 2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
 3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.
- E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*
1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.

- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 1. Observations by Engineer;
 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. Use or occupancy of the Work or any part thereof by Owner;
 5. Any review and approval of a Shop Drawing or Sample submittal;
 6. The issuance of a notice of acceptability by Engineer;
 7. The end of the correction period established in Paragraph 15.08;
 8. Any inspection, test, or approval by others; or
 9. Any correction of defective Work by Owner.

- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design

professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to

Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

- 9.05 *Lands and Easements; Reports, Tests, and Drawings*
- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
 - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
 - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 9.06 *Insurance*
- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
- 9.07 *Change Orders*
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 *Inspections, Tests, and Approvals*
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 *Limitations on Owner's Responsibilities*
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 *Undisclosed Hazardous Environmental Condition*
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 *Evidence of Financial Arrangements*
- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).
- 9.12 *Safety Programs*
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
 - B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER’S STATUS DURING CONSTRUCTION

10.01 *Owner’s Representative*

- A. Engineer will be Owner’s representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner’s representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor’s executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer’s efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer’s visits and observations are subject to all the limitations on Engineer’s authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer’s visits or observations of Contractor’s Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer’s consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer’s Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer’s authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer’s authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner’s delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer’s authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

- 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. *Payment Becomes Due*
1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. *Reductions in Payment by Owner*
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all duly pending Change Proposals and Claims; and

- e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
 - C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
 - D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
 - E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their

reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
 - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if

repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

-- This page intentionally left blank --

BID ITEM DESCRIPTIONS

The following is a summary of the basis of payment for the project bid items. This list is intended as a summary of the items and is not intended to take precedence over the Project Special Provisions.

Bid Schedule Item 1 – Wilsonville City Hall Renovation.

The Project consists of City Hall Renovation including the removal and replacement of the existing reception, planning and building desk including overhead security grills and all associated electrical and lighting systems in the desk area. The work in this area also includes creating a new larger conference room by eliminating a private office to create a larger more functional meeting room for City Hall staff, guests and visitors. In addition, the scope of work includes minor staff office renovations, including the extension of an interior wall and the reconfiguration of the Inspector's Office entry to accommodate a revised systems furniture layout.

Bid Schedule Item 2 – Alternate 1: Conference Room 108 Door and Relite Frame and Wall Paneling.

a. Base Bid: Provide wood paneling, wood relite and door frame and new full lite wood door as shown by drawing 1/A2.01 and 3/A2.01 on the lobby side of the new Conference Room 108. Provide wood frame with integrated whiteboard, wood relite and door frame and new full lite wood door as shown by drawing 12/A2.01.

b. Alternate: Reuse existing knock down hollow metal relite and door frame from demolition of existing Office and existing Conference Room door. Revise rough in opening accordingly and finish wall with gypsum board wall assembly finished to match existing and painted based on scheduled paint finish for room. Eliminate wood framed integrated whiteboard. Repair and paint existing gypsum board wall system with finish to match existing.

Bid Schedule Item 3 – Alternate 2: Wall panels at Front Desk 119 and Front Desk Apron.

a. Base Bid: Provide wood paneling on existing walls as shown by drawing 4/A2.01 and wood panel casework apron below counter surface as shown by drawing 2/A2.01 and opposite side.

b. Alternate: Remove wood paneling on existing walls, repair existing wall and paint. Refer 4/A2/01. Replace wood panel casework apron below counter with pointed MDF casework. Refer 2/A2.01.

-- This page intentionally left blank --

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

GENERAL

These Supplementary Conditions make additions, deletions, or revisions to the Standard General Conditions of the Construction Contract Documents. All General Conditions provisions which are not modified or deleted remain in full force and effect. Except as otherwise defined or re-defined in these Supplementary Conditions, terms which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

In interpreting the definitions, terminology, and the responsibilities and authorities of project personnel named or defined in the General Conditions, these Supplementary Conditions, or the Technical Specifications, it is the Owner's specific intent to retain final decision-making authority for any and all actions through the person of the Owner's Project Representative, as specifically named and defined in the Construction Contract ("Contract") for the Project. Where the General Conditions specifically describe decisions to be made or actions to be performed by the Design Professional (Architect and/or Engineer) these decisions or actions are only applicable to the extent to which the Owner's Project Representative has granted the authority and responsibility to the Design Professional, and communicated such authority and responsibility, in writing, to the Design Professional and the Contractor. To the extent Contractor and/or Design Professional have questions regarding whether Design Professional or Owner is the party with authority to act, such questions will be sent in writing to Owner's Project Manager.

The General Conditions and Technical Specifications may also include Project defined job titles that have not been specifically assigned on this Project. In all cases where a decision or action is assigned by the General Conditions to a particular title, but for which a specific person has not been identified in the Contract, responsibility for the decision or action shall fall to the Owner's Project Representative, or the Contractor's Project Manager, as the case may be.

Note: The above reports and drawings are not part of the Contract Documents but are offered for additional information only. Copies of these reports and drawings may be examined at the office of the Owner or Engineer during regular business hours. Copies are also available for purchase.

SC-1.01.A.2. As used herein, "Agreement" means the City of Wilsonville Construction Contract for the Wilsonville City Hall Renovation Project. References to "Contract" in General Conditions 1.01.A.12 include the Agreement and shall have the same meaning as "Agreement" when used in these Supplementary Conditions.

SC-1.01.A.11. Add the following language at the end of Paragraph 1.01.A.11:

"'Hazardous waste' has the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 U.S.C. § 6903) and as further defined in ORS 466.005(7), as each is amended from time to time."

SC-1.01.A.16. Add the following language at the end of Paragraph 1.01.A.16:

"For purposes of giving or receiving notice, directives, change orders, or any other information from the Design Professional or the Owner to Contractor, Contractor shall designate one person as Project Manager to receive such notice, directives, change orders, or other information. If the person so identified by Contractor is not present on the Site during normal working hours for any consecutive

48-hour period, Contractor shall, in writing addressed to the Engineer and the Owner, identify the individual who is acting as Project Manager.”

SC-1.01.A.22. Replace the definition of “Engineer” with the following definition:

“The individual or entity retained by the Owner as a licensed design professional to act as the Design Professional of Responsible Charge (DPRC) during the construction of the Work.”

SC-1.01.A.23. Add the following language at the end of Paragraph 1.01.A.23:

“The Engineer will promptly obtain the signature of Contractor on all Field Orders. This signature confirms that Contractor is not entitled to any change in Contract Price or the Contract Time as a result of the minor change in the Work. The Engineer will endeavor to obtain the signature of Contractor on all Field Orders on a weekly basis.”

SC-1.01.A.30. Add the following to the end of Paragraph 1.01.A.30:

“Owner is the City of Wilsonville. Owner’s Project Representative is identified in the Contract. Owner and Owner’s Project Representative are used interchangeably for general administration and management of the Contract.”

SC-2.01. Delete “Performance and Payment” from the title stated in Paragraph 2.01.

SC-2.01.A. Replace Paragraph 2.01.A. with the following paragraph:

“A. Bonds: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish. Before starting any Work on the Project, Contractor shall obtain all bonds required under the Contract and, as required, filed with the Construction Contractors Board, unless exempt under ORS 279C.836(7), (8), or (9). Contractor shall also include in every subcontract a provision requiring the subcontractor to have all bonds that are also required of the Contractor and filed with the Construction Contractors Board before starting Work on the Project unless exempt under ORS 279C.836(7), (8), or (9). Contractor shall include copies of all its bonds and its subcontractors’ bonds in the copies of the bonds required in 2.01.A above.”

SC-2.01.C. Delete Paragraph 2.01.C.

SC-2.02.A. Delete “four” in the first sentence of Paragraph 2.02.A. and replace it with “two.”

SC-2.04.B. Delete Paragraph 2.04.B.

SC-5.06.I. Replace the opening phrase that reads “To the fullest extent permitted by Laws and Regulations” with the following:

“To the extent allowed by Oregon law, including without limitation Oregon Tort Claims Act limits”

Also, near the end of the first sentence of Paragraph 5.06.I, delete the word “and” appearing before “(2),” renumber (2) as (3), and insert the following as new item (2):

“(2) was not open and obvious upon visual inspection of the Site;”

After the renumbered (3), add a comma at the end of that sentence and the following:

“and (4) work was immediately stopped and the condition reported to Engineer and the Owner.”

Add a comma at the end of the last sentence in Paragraph 5.06.I and the following:

“including with respect to exacerbation of any existing condition.”

SC-5.07. Add the following Section:

“5.07 Historical or Archaeological Finds

A. Where historical objects of archaeological or paleontological nature are encountered during the course of construction, including but not limited to ruins, sites, buildings, artifacts, and fossils, Contractor shall suspend operations in the area, preserve all such objects from disturbance and shall notify the Owner’s Project Representative and Engineer of the nature and location of such finds. The Owner’s Project Representative will notify Contractor when to proceed with the construction in the affected area. The officials to be contacted by the Owner’s Project Representative, should cultural or archaeological resources be encountered, are:

1. Oregon State Historical Preservation Office Archaeologist (503-986-0674).
2. Any applicable tribal representatives.”

SC-6.02.A. In the first sentence of Paragraph 6.02.A, delete “Owner and.”

SC-6.02.B. In the first sentence of Paragraph 6.02.B, delete “Owner or.”

Also, replace the insurance rating required from “A-VII” to “A VII.”

SC-6.02.E. Replace Paragraph 6.02.E with the following:

“The Owner and Engineer shall be named as additional insured on insurance certificates submitted by or on behalf of Contractor (with the exception of the workers compensation certificate). Policies shall be written on an occurrence basis, and include coverage for respective officers, directors, members, partners, employees, agents, consultants, etc., of each additional insured. Additional insured coverage under Contractor’s Commercial General Liability, Automobile Liability, and Excess Liability Policy(ies), as applicable, will be provided by endorsement. Additional insured coverage shall be for both on-going operations via ISO Form CG 2010 or its equivalent, and products and completed operations via ISO Form CG 2037 or its equivalent. Coverage shall be Primary and Non-Contributory. Waiver of Subrogation endorsement via ISO form CG 2404 or its equivalent shall be provided. The following is included as additional insured: ‘The City of Wilsonville, its elected and appointed officials, officers, directors, agents, employees, and volunteers.’ As evidence of the insurance coverage required by this Agreement, Consultant shall furnish a Certificate of Insurance to the City.”

SC-6.02.F. In Paragraph 6.02.F, delete “or Contractor” the two times it is stated. Also replace “the other party’s” with “Contractor’s” in the two places it is stated.

SC-6.02.I. In Paragraph 6.02.I, replace “either party” with “Contractor.” Replace “such party” with “Contractor” in the two places it is stated. Replace “the other party” with “Owner.”

SC-6.02.K. Replace Paragraph 6.02.K with the following:

“Without prejudice to any other right or remedy, if Contractor has failed to obtain or maintain required insurance, Owner may elect (but is in no way obligated) to obtain equivalent insurance to protect Owner’s interests at the expense of Contractor, and the Contract Price will be adjusted accordingly.”

SC-6.02.N. Replace Paragraph 6.02.N with the following:

“All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 30 days prior written notice has been given to Owner, Engineer, and each other additional insured to whom a certificate of insurance has been issued. Evidence of insurance coverage submitted on current “ACORD” forms (or any other insurance certificate containing the language regarding cancellation of coverage), shall EITHER include a statement that “30 days cancellation notice shall be provided” and a policy endorsement providing for such notification shall be purchased; OR Contractor’s insurance agent shall submit a written letter certifying that new insurance certificates will be issued and sent to the Owner and the Owner’s Representative a minimum of every 30 days, throughout the term of the required insurance.”

SC-6.03.A. Add the following at the end of Paragraph 6.03.A:

“1. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor’s performance of the Work and Contractor’s other obligations under the Contract, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

- a. Claims under workers’ compensation, disability benefits, and other similar employee acts;
- b. Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor’s employees;
- c. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor’s employees;
- d. Claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - i. By any person as a result of an offense directly or indirectly related to the employment of such person by Contractor; or
 - ii. By any other person for any other reason;
- e. Claims for damages, other than to the Work itself, because of injury or destruction of tangible property wherever located, including loss of use resulting therefrom; and
- f. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle.

2. The limits of liability for liability insurance required by SC-6.03.A.1 shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

- a. Workers' Compensation, and related coverages under Paragraphs SC-6.03.A.1.a and 1.b:
 - i. State Statutory
 - ii. Applicable Federal (e.g., Longshoremen's) Statutory
 - iii. Employer's Liability \$500,000

- b. Contractor's General Liability under Paragraphs SC-6.03.A.1.c through 1.f, which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of Contractor:
 - i. General Aggregate \$3,000,000
 - ii. Products & Completed Operations Aggregate..... \$2,000,000
 - iii. Each Occurrence (Bodily Injury and Property Damage)..... \$2,000,000
 - iv. Medical Expenses (any one person)..... \$10,000
 - v. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.
 - (1) Fire Damage..... \$50,000

- c. Automobile Liability under the Contract:
 - i. Combined Single Limit of \$2,000,000

- d. Pollution Liability under the Contract:
 - i. General Aggregate \$2,000,000
 - iii. Each Occurrence \$2,000,000

SC-6.03.B. Under Paragraph 6.03.B.1, add after "required," the following:

"as provided in the Contract and the Supplementary Conditions."

Under Paragraph 6.03.B.3, replace "the Work is complete" with "final payment." Also, after "(as set forth in Paragraph 15.06.D)," the following:

"except for completed operations coverage which shall remain in effect for two years after final payment,"

SC-6.03.D. Insert the following paragraph after Paragraph 6.03.C:

"*Primary Coverage:* Contractor's insurance coverage shall be primary, and any other insurance carried by Owner is excess."

SC-6.04.A. Replace the last sentence of Paragraph 6.04.A with the following:

"The deductible for the property insurance shall not exceed \$10,000."

SC-6.05.A. Delete Paragraphs 6.04.A.1 and A.2 and replace them with the following:

"1. Owner and Contractor intend that all policies purchased in accordance with Paragraph 6.04 will

protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. Contractor waives all rights against Owner and their respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. None of the above waivers shall extend to the rights of any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued. However, to the extent such waiver provisions would void insurance coverage, they will not be enforceable.”

SC-6.05.B. Delete Paragraph 6.04.B.

SC-6.05.C. Delete Paragraph 6.04.C.

SC-6.05.D. Renumber Paragraph 6.04.D to 6.04.B.

SC-5.07.A. Add the following to the end of Paragraph 5.07.A:

“To the extent such waiver provisions would void insurance coverage, they will not be enforceable.”

SC-7.03.D. Add the following new paragraph immediately after Paragraph 7.03.C:

“In accordance with ORS 279C.520, no person shall be employed for more than 10 hours in any 1 day, or 40 hours in any 1 week, except in cases of necessity, emergency, or where the public policy absolutely requires it. In such cases, the person so employed shall be paid at least time and a half the person’s regular rate of pay for all time worked in excess of 40 hours in 1 week; when work week is 8 hours for 5 consecutive days or 10 hours for 4 consecutive days, and for time worked on Saturday and on any legal holiday specified in ORS 279C.540.”

SC-4.04.A.1. Replace “Engineer” with “Owner’s Project Representative.”

SC-7.06.D. Insert the following sentence at the end of Paragraph 7.06.D:

“Reimbursement rates for Engineer or Related Entities for evaluation of proposed substitutes shall be on the basis as established in Paragraph 15.01.E.1.e of these Supplementary Conditions.”

SC-7.07.K. Replace “appropriate contractual agreement” with “appropriate written contractual agreement.”

SC-7.07.N. Add the following new paragraph immediately after Paragraph 7.07.M:

“N. Contractor shall not award work valued at more than fifty thousand dollars (\$50,000) to subcontractor(s) without prior written approval of the Owner.

SC-7.11.C. In the first sentence of Paragraph 7.11.C, after “cost or time of performance of,” insert “or ability to perform.”

SC-7.13. In Paragraph D, after “or any other individual or entity,” insert “contracted by or.”

Add the following new Paragraph K:

“K. Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of design and construction of the Project. Contractor shall evaluate the jobsite safety within the Project Area throughout construction and shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If Contractor determines that such means, methods, techniques, sequences, or procedures may not be safe, Contractor shall give written notice to Owner no later than three (3) days after Contractor’s determination and shall not proceed with that portion of the design or construction of the Project until Contractor makes the jobsite safe.”

Add the following new Paragraph L:

“L. Contractor shall designate a qualified and experienced representative at the Site whose duties and responsibilities shall include, without limitation, enforcement of State of Oregon and federal OSHA regulations regarding excavations, the prevention of accidents, and the maintenance and supervision of construction site safety precautions and programs.”

SC-7.18.A. After “or any other individual or entity,” insert “contracted by or.”

Add the following language to the end of Paragraph 7.18.A:

“To the fullest extent permitted by Laws and Regulations, in the event any such action or claim is brought against the Owner or Engineer, Contractor shall, if either so elects and upon tender by either, defend the same at Contractor’s sole cost and expense and with an attorney approved by the Owner, promptly satisfy any judgment adverse to the Owner or Engineer, or to the Owner, Engineer, and Contractor, jointly, or any combination of same, and reimburse the Owner and Engineer for any loss, cost, damage, or expense, including attorney fees, suffered or incurred by the Owner or Engineer.”

SC-7.17.B. In the second sentence of Paragraph 7.17.B, after “enforce such rights,” insert the following: “except that in no event will the warranty be less than two full years from the date of substantial completion”

SC-8.01.F. Renumber Paragraph 8.01.F as 8.01.G and insert the following as the new Paragraph 8.01.F:

“F. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of or resulting from Contractor’s performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or Engineer’s Consultants, or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by mediation. If mediation is unsuccessful, Contractor shall defend against further litigation as follows. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify, defend, hold harmless, and reimburse Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, and the successors in interest or assigns of the foregoing, from, for, and against, suits, actions, claims, damages, penalties, liabilities, losses, and expenses (including but not limited to all fees and related costs, disbursements, and expenses, of engineers, architects, attorneys, and expert witness’ fees) arising directly or indirectly or consequentially out of or resulting from any action, legal or equitable, brought by a separate contractor against Owner or Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them to the extent based on a claim caused by, arising out of, or resulting from Contractor’s negligent or other failure of performance in the Work.

SC-9.11.A. Delete this paragraph in its entirety and renumber Paragraph 9.12 to 9.11.

SC-10.01. Retitle as *"Owner Representation."*

SC-10.01.A. Delete this paragraph in its entirety and replace with the following:

- "A. Engineer is retained by Owner to represent Owner's interest and is granted certain authorities by these General Conditions and Supplementary Conditions to make decisions, communicate with the Contractor, and to otherwise act on behalf of the Owner and Owner's Project Representative. Unless specifically delegated to the Engineer by the General Conditions or Supplementary Conditions, all final decisions must be approved by Owner's Project Representative."

SC-10.02.A. Delete this paragraph in its entirety and replace with the following:

- "A. Engineer will make visits to the Site, and/or staff the Site with one or more full-time observers and inspectors, as required by Engineer's services contract with the Owner. On the basis of such Site visits, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective work."

SC-10.03. Retitle as *"Project Personnel."*

SC-10.05.A. Delete Paragraph 10.05.A in its entirety and replace with the following paragraph:

- "A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written recommendation of an Application for Payment to the Owner. The Owner's written decision on such matters will be final and binding upon Contractor, unless, within ten (10) days after the date of any such decision, Contractor delivers to the Owner written notice of intent to appeal the Owner's decision and a formal proceeding is instituted by Contractor in a forum of competent jurisdiction to exercise such rights or remedies as Contractor may have with respect to the Owner's decision, unless otherwise agreed in writing by the Owner and Contractor."

SC-10.06. Delete Section 10.06 and replace it with the following:

"10.06 Decisions on Requirements of Drawings and Specifications and Acceptability of Work.

- A. Engineer will be the initial interpreter of the requirements of the Drawings and Specifications and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Drawings and Specifications pertaining to the performance of the Work, will be referred initially to Engineer in writing within thirty (30) days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Article 12. The date of

Engineer's written decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 12.01.B.”

SC-11.01.B. Add the following language at the end of Paragraph 11.01.B:

“Accordingly, no course of conduct or dealings between the parties, no expressed or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alterations or additions to the Work shall be the basis of any claim for an increase in any amount due under the Contract Documents or a change in any time period provided for in the Contract Documents unless a written Change Order had been previously executed addressing such alterations or additions. Agreements on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Price and the Contract Time. In the event a Change Order increases the Contract Price, Contractor shall include the Work covered by such Change Order in applications for payments as if such Work were originally part of the Contract Documents”

SC-11.02.B. Delete Paragraph 11.02.B in its entirety and replace it with the following:

“If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, the other party may submit a Claim pursuant to Article 12.”

SC-11.05.A. At the end of Paragraph 11.05.A, add the following sentence:

“Any changes to the Contract Term or Contract Price must be made through a written Change Order.

SC-11.08. Delete Paragraph 11.08 in its entirety and replace with the following:

“11.08 Change of Contract Times

- A. All requests for adjustment in the Contract Time shall be determined by the Owner. The Owner’s written decision on such matters will be final and binding upon Contractor, unless, within ten (10) days after the date of any such decision, Contractor delivers to the Owner written notice of intent to appeal the Owner’s decision and a formal proceeding is instituted by Contractor in a forum of competent jurisdiction to exercise such rights or remedies as Contractor may have with respect to the Owner’s decision, unless otherwise agreed in writing by the Owner and Contractor.”

SC-11.09.A. In the first sentence of Paragraph 11.09.A, after “Engineer,” insert “and Owner.”

SC-11.09.B.1. In in Paragraph 11.09.B.1, after “Engineer,” insert “and Owner.”

SC-11.09.B.4. Delete Paragraph 11.09.B.4 in its entirety and replace it with the following:

“Upon receipt of Contractor’s supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor’s supporting data, submit a written recommendation to Owner to either approve in whole, deny in whole, or approve in part and deny in part each Change Proposal. The Owner will then provide a written decision to Contractor and Engineer within 14 days of Engineer’s recommendation. The

Owner's written decision on such matters will be final and binding upon Contractor, unless, within ten (10) days after the date of any such decision, Contractor delivers to the Owner written notice of intent to appeal the Owner's decision and a formal proceeding is instituted by Contractor in a forum of competent jurisdiction to exercise such rights or remedies as Contractor may have with respect to the Owner's decision, unless otherwise agreed in writing by the Owner and Contractor."

SC-11.09.B.5. Delete Paragraph 11.09.B.5 in its entirety.

SC-12.01.A.1. Delete Paragraph 12.01.A.1 in its entirety and replace it with the following:

"Appeals by Contractor of Owner's decisions regarding Change Proposals;"

SC-13.01.B.5. Add the following to Paragraph 13.01.B.5.c:

"4) The rental time of equipment on the Site will be computed subject to the following:

- a) When hourly rates are listed, any part of an hour less than 30 minutes of operation will be considered to be a half-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
- b) When daily rates are listed, any part of a day less than 4 hours operation will be considered to be a half-day of operation."

SC-11.03.D. Replace Paragraph 13.03.E.1.a with the following:

"1. the quantity of any item of any Unit Price Work performed by Contractor differs by more than twenty-five percent (25%) from the estimated quantity of such item indicated in the Contract (unless otherwise provided by the Contract Documents); and"

SC-15.01.E.1.e. Add the following language at the end of Paragraph 15.01.E.1.e:

"Reimbursement rates for Engineer or related entities to be calculated as follows. Owner compensation to Engineer will be calculated at an average rate of \$170 per each extra personnel hour for labor plus expenses and/or consultant costs."

SC-15.03.B & C. Replace Paragraphs 15.03.B and 15.03.C in their entirety with the following. Delete Paragraph 15.03.D in its entirety, and renumber Paragraph 15.03.E to 15.03.C and Paragraph 15.03.F to 15.03.D.

- "B. When Contractor considers the Work to be complete and ready for its intended use, including acceptable completion of all required testing, inspections, and/or certifications (as required by the Drawings, Contract Documents, or agencies with jurisdiction), Contractor shall notify the Owner and Engineer, in writing, that all Work is substantially complete and request that the Owner issue a Certificate of Substantial Completion. Within a reasonable time thereafter, the Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If the Owner does not consider the Work substantially complete, the Owner will notify Contractor in writing, giving the reasons therefor. If the Owner considers the Work substantially complete, the Owner will prepare and deliver to Contractor a Certificate of Substantial Completion that shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. The Owner will also deliver to Contractor a written division of responsibilities pending final payment

between the Owner and Contractor with respect to security, operation, safety, maintenance, heat, utilities, insurance, and warranties and guarantees. The Owner's written decision on such matters will be final and binding upon Contractor, unless, within ten (10) days after the date of any such decision, Contractor delivers to the Owner written notice of intent to appeal the Owner's decision and a formal proceeding is instituted by Contractor in a forum of competent jurisdiction to exercise such rights or remedies as Contractor may have with respect to the Owner's decision, unless otherwise agreed in writing by the Owner and Contractor."

SC-15.06.A.2.f. Add the following new paragraph immediately after Paragraph 15.06.A.2.e:

- "f. In accordance with ORS 279A.120, if Contractor is an out-of-state Contractor, Contractor is required to report to the Department of Revenue the Contract Price, terms of payment, length of contract, and other information as the Department of Revenue may require. Contractor shall provide the Owner with verification that Contractor has satisfied this requirement prior to requesting final payment."

SC-15.08.A. Replace all references in Paragraph 15.08.A to "one year" with "two years." The warranty period shall be for two (2) years from the date of Substantial Completion.

SC-16.01.B. Add the following paragraph after Paragraph 16.01.A:

- "B. The Owner may suspend all or a portion of the Work for cause, including due to failure of Contractor to correct unsafe conditions or failure of Contractor in performance in accordance with the Contract or in violation of laws, regulations, or permits. If the Work is suspended, in whole or in part, by the Owner for cause, Contractor will not be entitled to any extension of the Contract Time or compensation. During any such suspension, Contractor shall be and remain obligated to preserve the Contract Site, the Contract Work, whether completed in whole or in part, and any materials stored at the Site, in good condition and repair."

SC-16.02.A.3, 4, & 5. Delete the word "or" at the end of Paragraph 16.02.A.3, add the word "or" at the end of Paragraph 16.02.A.4 and insert the following Paragraph 16.02.A.5:

- "5. Contractor has failed, neglected, or refused to make prompt and full payment of any claim for labor, services, materials, supplies, or provisions furnished by any person in connection with the Contract as said claim becomes due."

SC-16.02.E. Delete the second to last sentence in Paragraph 16.02.E.

SC-16.02.H. Add the following paragraph after Paragraph 16.02.G:

- "H. If the City terminates this Contract in whole or in part, due to default or failure of Contractor to perform Work in accordance with the Contract, the City may procure, upon reasonable terms and in a reasonable manner, services similar to those so terminated. In addition to any other remedies the City may have, both at law and in equity, for breach of contract, Contractor shall be liable for all costs and damages incurred by the City as a result of the default by Contractor, including, but not limited to all costs incurred by the City in procuring services from others as needed to complete this Contract. This Contract shall be in full force to the extent not terminated by written notice from the City to Contractor. In the event of a default, the City will provide Contractor with written notice of the default and a period of ten (10) days to cure the default. If Contractor

notifies the City that it wishes to cure the default but cannot, in good faith, do so within the ten (10) day cure period provided, then the City may elect, in its sole discretion, to extend the cure period to an agreed upon time period, or the City may elect to terminate this Contract and seek remedies for the default, as provided above.”

SC-16.04. Section 16.04 is modified to replace reference to Engineer with reference to Owner. The notice period shall be changed from 7 days to 30 days.

SC-17.01. Add the following paragraph after Paragraph 17.01.B:

“C. Even if the parties agree to mediation or engage in any other alternative dispute resolution allowed under the Contract or mutually agreed to, Owner may still request immediate equitable remedies of either specific performance or injunctive relief to occur while mediation is pending or ongoing. The parties will otherwise agree to abate the court case pending resolution of mediation or other alternative dispute resolution.”

SC-18.01.A.2. In Paragraph 18.01.A.2, delete “to the recipient’s place of business” and replace it with the following:

“addressed to the address set forth in the Notices provision of the Contract, or to such other address as one party may indicate by written notice to the other party.”

SC-18.02.A. After Paragraph 18.02.A, include the following:

“B. For notice given by registered or certified mail, the calculation will add two days for delivery of the notice.

SC-18.01.A.3. Delete Paragraph 18.01.A.3 in its entirety.

SC-18.07.A. Replace Paragraph 18.07.A with the following:

“A. The Contract Documents have been made in the State of Oregon and are governed by its laws. Venue for any litigation filed in connection with the Contract Documents shall be in a court of competent jurisdiction in Washington County, Oregon.”

END OF SECTION

-- This page intentionally left blank --

Appendix A – Plans and Details

- Plans and details bound separately -

-- This page intentionally left blank --

DRAWING SYMBOLS

Table of drawing symbols including Building/Wall Section, Building Interior Elevation, Detail, Partition Type, Door Number, Elevation Tag, Project North, Room Name and Number, Keynote, Revision Reference, Property Line, Finish Type, Window Type, Break Line, Column Grid, Detail Callout, Room Name and Number, Ceiling Type, and Rail Identification Tag.

MATERIAL SYMBOLS

Table of material symbols including CIP Concrete, Precast Concrete, Concrete Masonry Unit, Brick, Steel, Aluminum, Gyp Wall Board, Lath and Plaster, Gravel, Rigid Insul, Batt Insul, Fireproofing Sand, Firestopping, Earth, Cont. Wood Framing, Wood Blocking, Plywood, Particle Board, Solid Wood, and Carpet.

ABBREVIATIONS

Table of abbreviations including AND, ANGLE, AT, CENTERLINE, DIAMETER, LINO, PLUS OR MINUS, DEGREE, FOUND OR NUMBER, ALIGN, ANCHOR BOLT, AIR CONDITIONING, ACOUSTICAL, AREA DRAIN, ADJUSTABLE OR ADJACENT, ABOVE FINISHED FLOOR, AGGREGATE, ALUMINUM, APPROXIMATE, ARCHITECTURAL, BOARD, BUILDING, BLOCKING, BEAM, BOTTOM, CABINET, CATCH BASIN, CEMENT BACKER BOARD, CEMENT, CERAMIC, CONTRACTOR FURNISHED CONTRACTOR, CAST-IN-PLACE, CONSTRUCTION OR CONTROL JOINT, CEILING, CLOSET, CLEAR, CMU, CONCRETE MASONRY UNIT, COUNTER, CLEANOUT, COLUMN, CONCRETE, CONSTRUCTION, CONTINUOUS, CARPET OR CARPET TILE, CERAMIC TILE, CENTER, DOUBLE, DETAIL, DIAMETER, DIMENSION, DOWN, DOOR, DOWNSPOUT, DRAWING, EACH, ELEVATION, ELECTRICAL, EDGE OF SLAB, ELECTRICAL PANEL, EQUAL, ELECTRIC WATER HEATER, EXHAUST, EXISTING, EXTERIOR, FLOOR DRAIN, FOUNDATION, FINISH, FINISH FLOOR, FLOOR, FACE OF CONCRETE OR CURB, FACE OF FINISH, FACE OF STUD, FIREPROOF, FOOT OR FEET, FOOTING, GROUND, GALVANIZED, GLASS, GRADE, GYPSUM WALL BOARD, GYPSUM WALL BOARD - IMPACT RESISTANT, GYPSUM WALL BOARD - WATER RESISTANT, HOLLOW CORE, HARDWOOD, HEIGHT, HORIZONTAL, HOUR, HEATING, VENTILATION, AIR CONDITIONING, INSIDE DIAMETER, INSULATION, INTERIOR, JOINT SEALANT, JOINT, LAMINATE, LAVATORY, LINOLEUM, LIGHT, MATERIAL, MAXIMUM, MECHANICAL, MEMBRANE, MANUFACTURER, MINIMUM, MISCELLANEOUS, MOUNTED, METAL, MULLION, NEW, NOT IN CONTRACT, NUMBER, NOMINAL, NOT TO SCALE, OVERALL, ON CENTER, OUTSIDE DIAMETER, OWNER FURNISHED CONTRACTOR INSTALLED, OVER FLOW DRAIN, OWNER FURNISHED OWNER INSTALLED, OPENING, OPPOSITE, PAINT COLOR, PARTICLEBOARD, PERFORATED, PROPERTY LINE, PLASTIC LAMINATE, PLASTER, PLYWOOD, PANEL, PAIR, POINT, PARTITION, QUARRY TILE, RADIUS OR RISER, RETURN AIR, ROOF DRAIN, REFRIGERATOR - FREEZER, REINFORCED, REQUIRED, RESILIENT, ROOM, ROUGH OPENING, REVERSED, RAIN WATER LEADER, SOLID CORE, SCHEDULE, STORM DRAIN, SECTION, SHOWER, SHEET, SIMILAR, SKYLIGHT, SPECIFICATION, SQUARE, STAINLESS STEEL, STONE, STATION, STANDARD, STEEL, STORAGE, STRUCTURAL, TREAD, THICKNESS, THROUGH, TOP OF, TOP OF CURB, TOLERANCE, TOP OF STEEL, TOP OF WALL, TYPICAL, UNLESS OTHERWISE NOTED, VERIFY IN FIELD, WITH, WATER CLOSET, WOOD, WOOD FLOORING, WOOD PANELING, WATER HEATER, WIRE MESH, WITHOUT, WATERPROOF, WELDED WIRE FABRIC.

DRAWING INDEX

Table of drawing index including General (G0.01, G0.02), Architectural (A1.01, A1.10, A1.20), Interior Elevations (A2.01), Enlarged Sections (A3.01), Casework Elevations (A4.01), Assembly Details (A5.01, A5.02, A5.10), Schedules (A6.01), and 3D Views (A9.01).

APPLICABLE CODES

- 2014 OREGON STRUCTURAL SPECIALTY CODE
2017 OREGON ELECTRICAL SPECIALTY CODE
2017 OREGON PLUMBING SPECIALTY CODE
2014 OREGON MECHANICAL SPECIALTY CODE
2014 OREGON FIRE CODE
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

PROJECT TEAM DIRECTORY

OWNER: City of Wilsonville, 29799 Town Center Loop E, Wilsonville, OR 97070. ARCHITECT: Woofler Architecture PC, 107 SE Washington Street, Suite 228, Portland, OR 97214. INTERIOR DESIGNER: Nossan Norman Design Studio, 4705 NE 22nd Ave, Portland, OR 97211.

JURISDICTIONAL AUTHORITY

CITY OF WILSONVILLE, OREGON



City of Wilsonville
29799 Town Center Loop East
Wilsonville, OR 97070

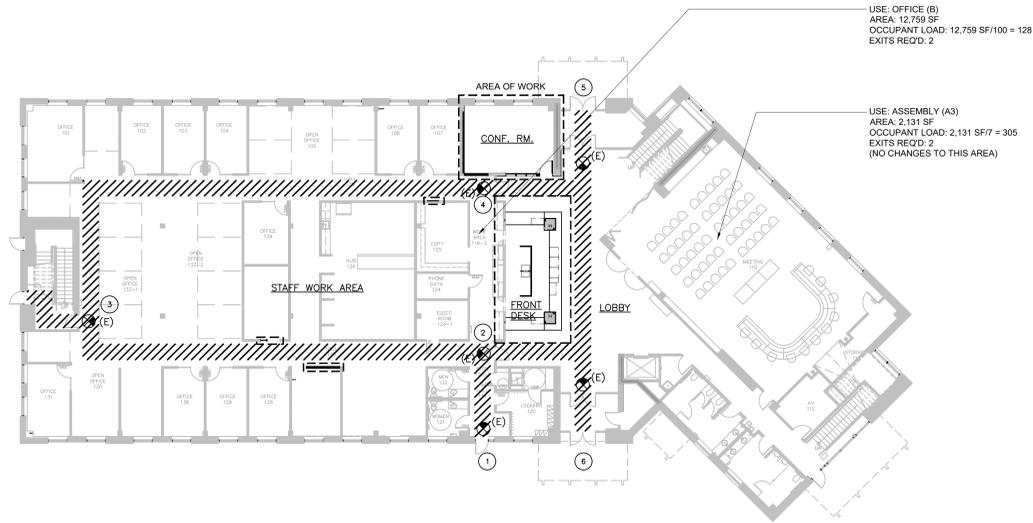
City Hall Renovation
29799 Town Center Loop East
Wilsonville, OR 97070

Table with 2 columns: Field (Date, Project No., Revisions) and Value (10.04.2019, 05200, blank).

DRAWING INDEX, SYMBOLS AND ABBREVIATIONS

G0.01

City Hall Renovation
City of Wilsonville City Hall
29799 Town Center Loop E
Wilsonville, OR 97070
PERMIT SET October 4, 2019
Map showing project site location relative to Town Center Loop, SW Wilsonville Rd, Memorial Park, and Willamette River.



1 LEVEL 01 LIFE SAFETY PLAN
1/16"=1'-0"



PROJECT CODE SUMMARY

APPLICABLE CODES:

2014 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
2017 OREGON PLUMBING SPECIALTY CODE (OPSC)
2014 OREGON MECHANICAL SPECIALTY CODE (OMSC)
2017 OREGON ELECTRICAL SPECIALTY CODE (OESC)
2014 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC)
2014 OREGON FIRE CODE (OFC)

PROJECT SUMMARY:

THIS PROJECT IS AN INTERIOR IMPROVEMENT. THE SCOPE INCLUDES CHANGES TO THE RECEPTION DESK IN THE ENTRY LOBBY, COMBINING TWO CONFERENCE ROOMS INTO ONE, AND LIMITED MINOR MODIFICATIONS TO AREAS IN THE FIRST FLOOR STAFF WORK AREA.

CODE SUMMARY:

THERE ARE NO CHANGES TO EXISTING OCCUPANCY OR USE. ONE DOORWAY BETWEEN THE STAFF AREAS AND THE ENTRY LOBBY HAS BEEN DELETED (REFER TO ADJACENT DIAGRAM) BUT THREE EXITS REMAIN (TWO ARE REQUIRED).

OCCUPANCY TYPES:

A3 AND B

THE BUILDING IS CONSTRUCTED TO SATISFY THE HEIGHT AND CONSTRUCTION REQUIREMENTS FOR AN A3 OCCUPANCY. THIS PROVISION ALLOWS FOR NON-SEPARATED USES THROUGHOUT THE BUILDING.

CONSTRUCTION TYPE:

TYPE VB, FULLY SPRINKLERED.

BUILDING CONSTRUCTION:

EXISTING BUILDING CONSTRUCTION
(PER OSSC TABLE 601)

ELEMENT	TYPE VB - EXISTING
PRIMARY STRUCTURAL FRAME	0 HOUR
BEARING WALLS (EXTERIOR)	0 HOUR
BEARING WALLS (INTERIOR)	0 HOUR
NON-BEARING WALLS (EXTERIOR)	0 HOUR
NON-BEARING WALLS (INTERIOR)	0 HOUR
FLOOR CONSTRUCTION	0 HOUR
ROOF CONSTRUCTION	0 HOUR

FIRE SUPPRESSION:

THE BUILDING IS FULLY SPRINKLERED. FIRE SPRINKLER LAYOUT AT AFFECTED AREAS IS DESIGN-BUILD AND WILL BE PROVIDED BY A DEFERRED SUBMITTAL.

PORTABLE FIRE EXTINGUISHERS ARE PROVIDED.

PLUMBING SYSTEMS:

NO CHANGES IN USE OR INCREASES IN OCCUPANT LOAD. NOTE: PLUMBING FIXTURES ARE PART OF EXISTING BUILDING.

EXITING REQUIREMENTS:

(PER OSSC CHAPTER 10)

AT IMPACTED AREA OF WORK:

USE: TYPE B

TOTAL FIRST FLOOR TYPE B OCCUPANTS: 12,759 SF = 128 OCC.

EXITS REQUIRED: 2

EXITS PROVIDED: 4

MINIMUM EXIT WIDTH PER PERSON

STAIRWAYS .2 * W/ SPRINKLER SYSTEM

OTHER EGRESS .15 * W/ SPRINKLER SYSTEM

TRAVEL DISTANCE (B OCCUPANCY)

MAX TRAVEL DISTANCE TO EXIT: 300 FT

MAX COMMON PATH OF TRAVEL: 100 FT

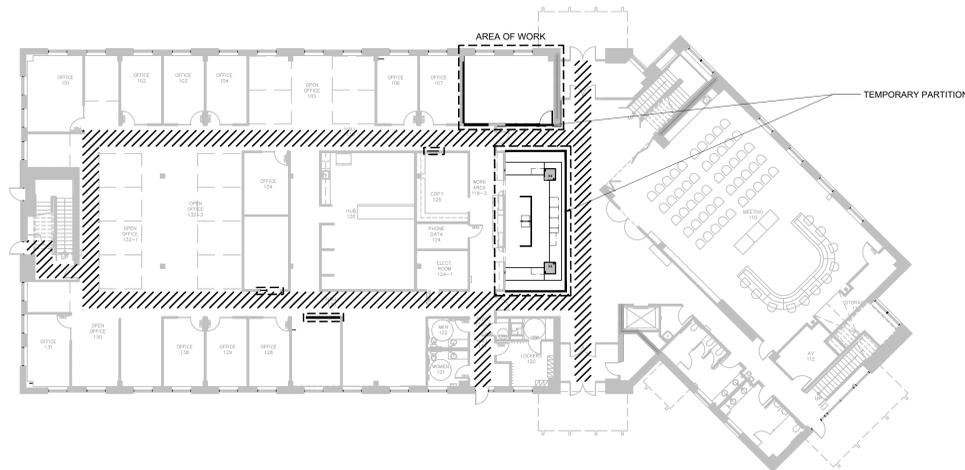
DEFERRED SUBMITTALS:

ELECTRICAL
FIRE ALARM SYSTEM
FIRE SPRINKLER
MECHANICAL EQUIPMENT AND ANCHORAGE

OCCUPANCY SAFETY SUMMARY

OCCUPANCY SAFETY PLAN GENERAL NOTES

- BUILDING WILL REMAIN OCCUPIED DURING CONSTRUCTION. CONTRACTOR TO ENSURE CONSTRUCTION ACTIVITIES DO NOT IMPACT LIFE SAFETY OF BUILDING OCCUPANTS.
- OCCUPANCY SAFETY PLAN WILL BE IN EFFECT FOR THE DURATION OF THE PERMITTED CONSTRUCTION.
- CONTRACTOR TO PROVIDE ALL TEMPORARY CONSTRUCTION PARTITIONS/SEPARATIONS. TEMPORARY PARTITIONS OR BARRIERS ARE TO BE CONSTRUCTED UTILIZING METAL STUD FRAMING AND 5/8" GYPSUM BOARD. CAVITY IS TO BE FILLED WITH ACOUSTICAL BATT INSULATION. WALLS TO BE FULL HEIGHT. COORDINATE LOCATIONS WITH EXISTING OVERHEAD UTILITIES.
- ALL OPENINGS IN TEMPORARY PARTITIONS ARE TO BE SECURED WITH DOORS AND LOCKS.
- EGRESS PATHS MUST BE MAINTAINED DURING CONSTRUCTION. TEMPORARY EXITS AND DIRECTIONAL SIGNAGE ARE TO BE PROVIDED BY CONTRACTOR IN AREAS WHERE EXISTING EGRESS ROUTES ARE ALTERED. LIGHTING/EMERGENCY LIGHTING MUST BE PROVIDED TO MAINTAIN REQUIRED LIGHT LEVELS IN PATH OF EGRESS.
- FIRE ALARM AND FIRE SPRINKLER SYSTEMS ARE TO REMAIN ONLINE IN OCCUPIED SPACES DURING CONSTRUCTION. ANY SHUT DOWNS OR INTERRUPTIONS ARE TO BE COORDINATED WITH OWNER PRIOR TO OCCURRING.
- ALL TEMPORARY DOORS ARE TO HAVE A 3'-0" X 6'-8" LEAF.

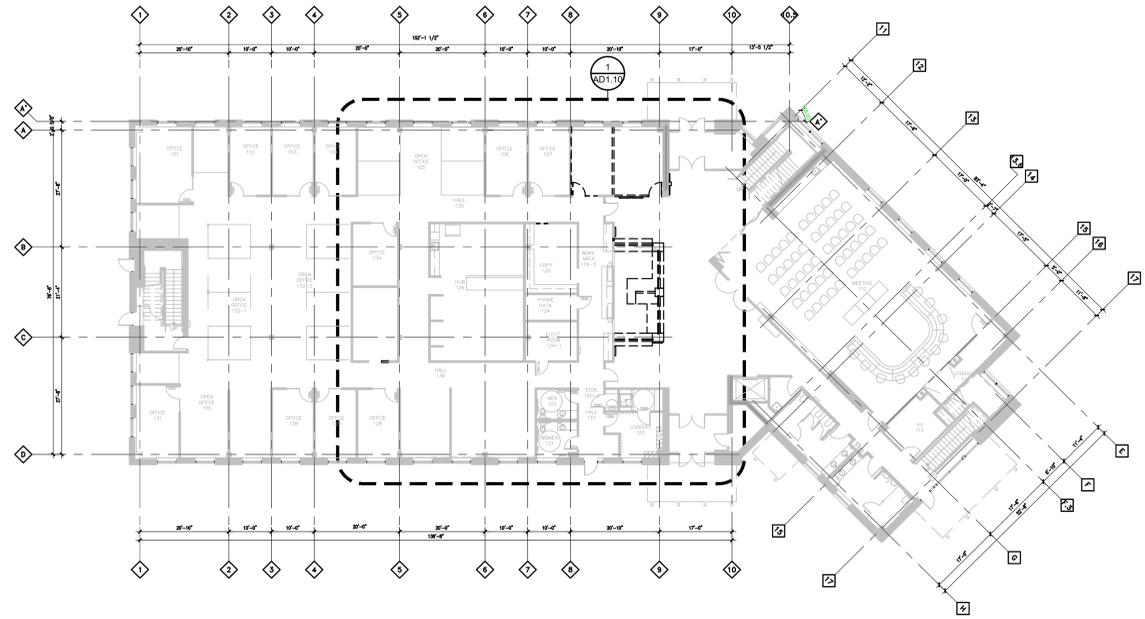


2 LEVEL 01 OCCUPANCY SAFETY PLAN
1/16"=1'-0"

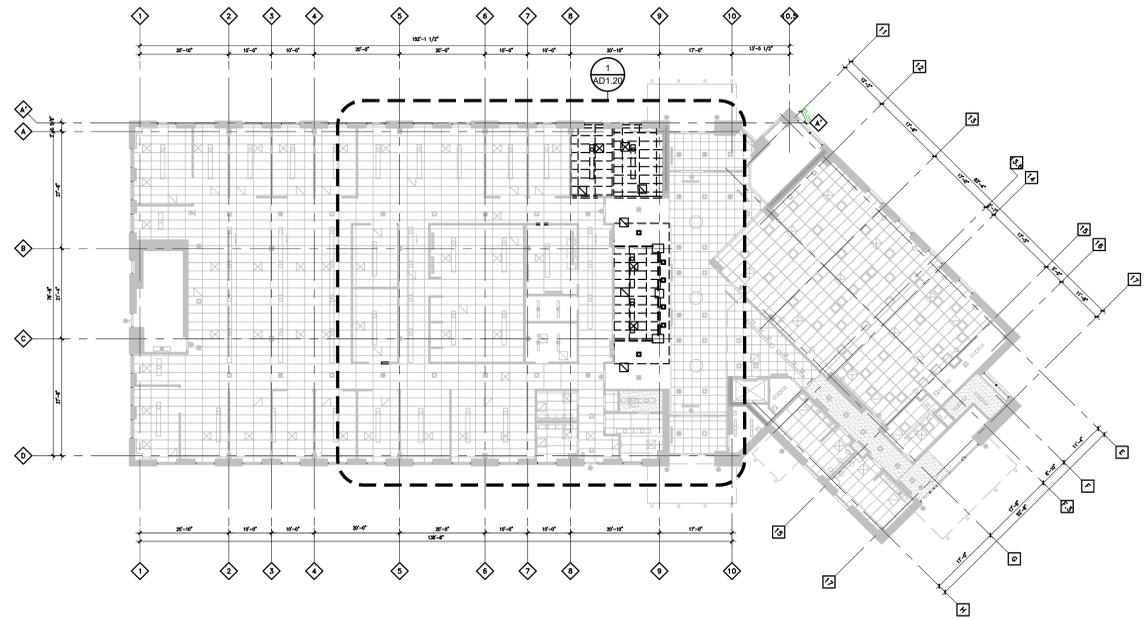


LEGEND

- ▬▬▬▬ AREA OF WORK
- ////// PATH OF EGRESS TRAVEL
- ⊙ EXIT
- ⊗ EXIT SIGN
- (E) ⊗ EXISTING EXIT SIGN



1 LEVEL 01 - OVERALL DEMOLITION PLAN
1/16"=1'-0"



2 LEVEL 01 - OVERALL REFLECTED CEILING DEMOLITION PLAN
1/16"=1'-0"



DEMOLITION NOTES

1. THE PURPOSE OF THE DEMOLITION DRAWINGS ARE TO OUTLINE THE GENERAL DIRECTION OF WHAT NEEDS TO BE REMOVED TO ACCOMPLISH THE WORK. WORK SHOWN IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO BE ALL INCLUSIVE. CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE BIDDING AND INCLUDE ALL WORK EVIDENT BY SITE INSPECTION, WHETHER OR NOT SHOWN ON DRAWINGS, TO ACHIEVE DESIRED RESULTS INDICATED ON DOCUMENTS TO COMPLETE THE WORK.
2. COORDINATE PHASING OF DEMOLITION WORK WITH OWNER PRIOR TO COMMENCING.
3. NOTIFY ARCHITECT IN ADVANCE OF CUTTING OR ALTERATION WHICH MAY EFFECT THE STRUCTURAL STABILITY OF ANY PORTION OF EXISTING STRUCTURES.
4. USE DUE CARE TO MINIMIZE DAMAGE TO EXISTING WORK WHICH IS TO REMAIN. REPLACE, REPAIR, PATCH AND REPAINT AS REQUIRED ANY WORK DAMAGED, MODIFIED OR AFFECTED BY DEMOLITION WORK.
5. PROTECT INTERIOR OF EXISTING BUILDING FROM CONSTRUCTION DUST, NOISE AND WEATHER.
6. PROVIDE DUST STOP FILTERS OVER RETURN AIR GRILLS.
7. COORDINATE WITH OWNER AND SCHEDULE IN ADVANCE ANY INTERRUPTIONS OF ELECTRICAL, MECHANICAL, FIRE PROTECTION, PLUMBING, COMMUNICATION AND OTHER SERVICES, WHICH MAY AFFECT FACILITY OPERATIONS OR OTHER BUILDINGS NEARBY.
8. REMOVE OR CAP CONDUIT AND PIPING FROM ABANDONED UTILITIES.
10. FIELD VERIFY ALL GIVEN DIMENSIONS.

DEMOLITION KEYNOTES

DEMOLITION LEGEND

- (E) WALL
- (E) CONSTRUCTION
- (E) CONSTRUCTION TO BE REMOVED
- (E) FLOOR OR CEILING ASSEMBLY TO BE REMOVED, STRUCTURAL SLAB TO REMAIN
- (E) FLOOR FINISH TO BE REMOVED
- (E) WALL SYSTEM TO BE REMOVED
- (E) CEILING TO BE REMOVED



City of Wilsonville
29799 Town Center Loop East
Wilsonville, OR 97070

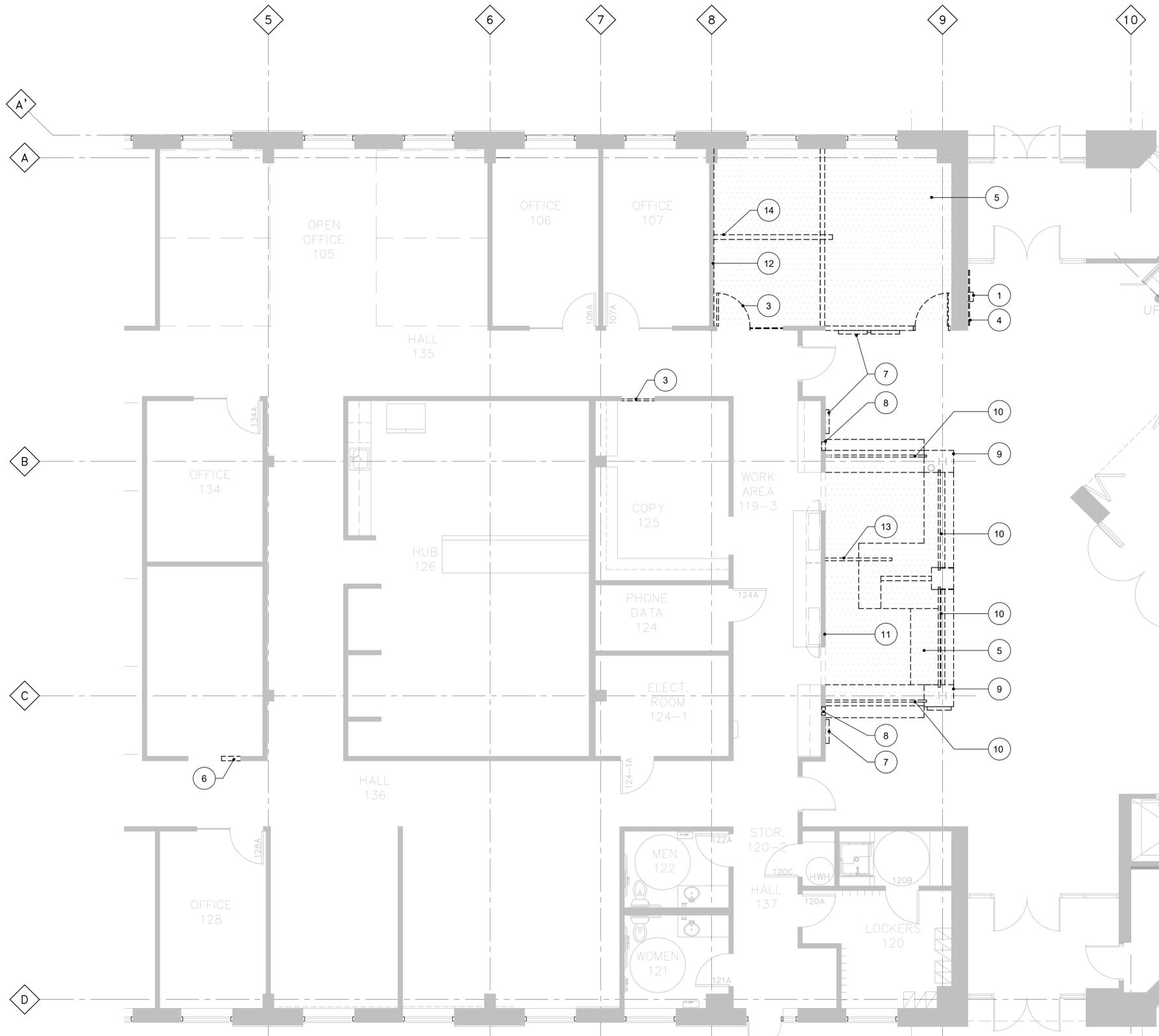
City Hall Renovation
29799 Town Center Loop East
Wilsonville, OR 97070

Date **10.04.2019**
Project No. **05200**

Revisions

OVERALL DEMO PLAN &
DEMO RCP
LEVEL 01

AD1.01



1 LEVEL 01 - ENLARGED DEMOLITION PLAN
1/4"=1'-0"

DEMOLITION NOTES

1. THE PURPOSE OF THE DEMOLITION DRAWINGS ARE TO OUTLINE THE GENERAL DIRECTION OF WHAT NEEDS TO BE REMOVED TO ACCOMPLISH THE WORK. WORK SHOWN IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO BE ALL INCLUSIVE. CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE BIDDING AND INCLUDE ALL WORK EVIDENT BY SITE INSPECTION, WHETHER OR NOT SHOWN ON DRAWINGS, TO ACHIEVE DESIRED RESULTS INDICATED ON DOCUMENTS TO COMPLETE THE WORK.
2. COORDINATE PHASING OF DEMOLITION WORK WITH OWNER PRIOR TO COMMENCING.
3. NOTIFY ARCHITECT IN ADVANCE OF CUTTING OR ALTERATION WHICH MAY EFFECT THE STRUCTURAL STABILITY OF ANY PORTION OF EXISTING STRUCTURES.
4. USE DUE CARE TO MINIMIZE DAMAGE TO EXISTING WORK WHICH IS TO REMAIN, REPLACE, REPAIR, PATCH AND REPAINT AS REQUIRED ANY WORK DAMAGED, MODIFIED OR AFFECTED BY DEMOLITION WORK.
5. PROTECT INTERIOR OF EXISTING BUILDING FROM CONSTRUCTION DUST, NOISE AND WEATHER.
6. PROVIDE DUST STOP FILTERS OVER RETURN AIR GRILLS.
7. COORDINATE WITH OWNER AND SCHEDULE IN ADVANCE ANY INTERRUPTIONS OF ELECTRICAL, MECHANICAL, FIRE PROTECTION, PLUMBING, COMMUNICATION AND OTHER SERVICES, WHICH MAY AFFECT FACILITY OPERATIONS OR OTHER BUILDINGS NEARBY.
8. REMOVE OR CAP CONDUIT AND PIPING FROM ABANDONED UTILITIES.
10. FIELD VERIFY ALL GIVEN DIMENSIONS.

DEMOLITION KEYNOTES

- 1 REMOVE (E) FIRE STROBE. STROBE TO BE RELOCATED TO CEILING
- 2 NOT USED
- 3 REMOVE (E) DOOR AND SIDELIGHT AND SALVAGE
- 4 REMOVE (E) SIGNAGE AND SALVAGE FOR REINSTALLATION IN NEW LOCATION
- 5 REMOVE (E) CARPET
- 6 REMOVE PORTION OF (E) WALL FOR ENLARGED OPENING
- 7 REMOVE (E) WALL-MTD BROCHURE & FOLDER HOLDERS & SALVAGE
- 8 REMOVE PORTION OF (E) WALL AS REQUIRED FOR INSTALLATION OF NEW VERTICAL TUBE STEEL POST SUPPORT FOR NEW OVERHEAD DOOR
- 9 REMOVE (E) COLUMN ENCLOSURE. (E) STRUCTURAL COLUMN TO REMAIN
- 10 REMOVE (E) COILING OVERHEAD SECURITY DOOR AND ASSOCIATED TUBE STEEL SUPPORTS, TYP
- 11 REMOVE (E) ELEC SWITCH (SWITCH TO BE RELOCATED TO OPPOSITE SIDE OF WALL)
- 12 REMOVE (E) GWB ON SOUTH SIDE OF WALL. STUD FRAMING TO REMAIN OPEN TO NEW AIR GAP. SEE A1.10 FOR MORE INFO.
- 13 TRENCH FLOOR AS REQUIRED TO FEED NEW POWER/DATA PEDESTAL UNDER NEW FREESTANDING DESKS. REF 1/A4.01
- 14 TRENCH FLOOR AS REQUIRED TO FEED NEW FLOOR BOXES UNDER CONFERENCE TABLE. REF 5/A4.01

DEMOLITION LEGEND

- (E) WALL
- (E) CONSTRUCTION
- (E) CONSTRUCTION TO BE REMOVED
- (E) FLOOR OR CEILING ASSEMBLY TO BE REMOVED, STRUCTURAL SLAB TO REMAIN
- (E) FLOOR FINISH TO BE REMOVED
- (E) WALL SYSTEM TO BE REMOVED
- (E) CEILING TO BE REMOVED



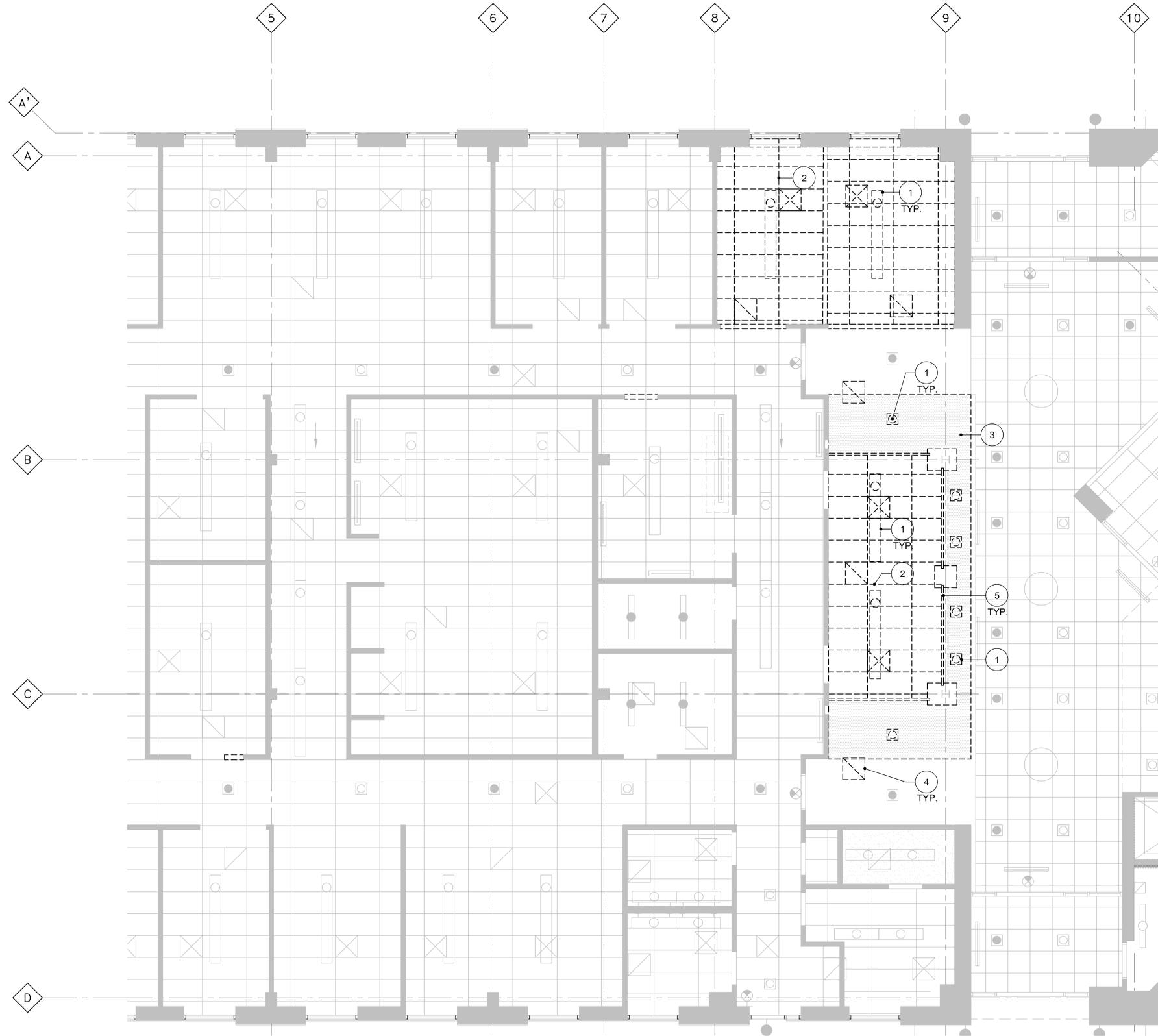
City of Wilsonville
29759 Town Center Loop East
Wilsonville, OR 97170

City Hall Renovation
29759 Town Center Loop East
Wilsonville, OR 97170

Date **10.04.2019**
Project No. **05200**
Revisions

ENLARGED DEMO PLAN
LEVEL 01

AD1.10



1 LEVEL 01 - ENLARGED REFLECTED CEILING DEMOLITION PLAN
1/4"=1'-0"

DEMOLITION NOTES

1. THE PURPOSE OF THE DEMOLITION DRAWINGS ARE TO OUTLINE THE GENERAL DIRECTION OF WHAT NEEDS TO BE REMOVED TO ACCOMPLISH THE WORK. WORK SHOWN IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO BE ALL INCLUSIVE. CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE BIDDING AND INCLUDE ALL WORK EVIDENT BY SITE INSPECTION, WHETHER OR NOT SHOWN ON DRAWINGS, TO ACHIEVE DESIRED RESULTS INDICATED ON DOCUMENTS TO COMPLETE THE WORK.
2. COORDINATE PHASING OF DEMOLITION WORK WITH OWNER PRIOR TO COMMENCING.
3. NOTIFY ARCHITECT IN ADVANCE OF CUTTING OR ALTERATION WHICH MAY EFFECT THE STRUCTURAL STABILITY OF ANY PORTION OF EXISTING STRUCTURES.
4. USE DUE CARE TO MINIMIZE DAMAGE TO EXISTING WORK WHICH IS TO REMAIN. REPLACE, REPAIR, PATCH AND REPAINT AS REQUIRED ANY WORK DAMAGED, MODIFIED OR AFFECTED BY DEMOLITION WORK.
5. PROTECT INTERIOR OF EXISTING BUILDING FROM CONSTRUCTION DUST, NOISE AND WEATHER.
6. PROVIDE DUST STOP FILTERS OVER RETURN AIR GRILLS.
7. COORDINATE WITH OWNER AND SCHEDULE IN ADVANCE ANY INTERRUPTIONS OF ELECTRICAL, MECHANICAL, FIRE PROTECTION, PLUMBING, COMMUNICATION AND OTHER SERVICES, WHICH MAY AFFECT FACILITY OPERATIONS OR OTHER BUILDINGS NEARBY.
8. REMOVE OR CAP CONDUIT AND PIPING FROM ABANDONED UTILITIES.
10. FIELD VERIFY ALL GIVEN DIMENSIONS.

DEMOLITION KEYNOTES

- 1 REMOVE (E) LUMINAIRE AND SALVAGE
- 2 REMOVE (E) SUSPENDED ACT CEILING AS REQ'D TO ACCOMODATE NEW SOFFIT
- 3 REMOVE (E) GWB CEILING
- 4 REMOVE (E) HVAC GRILLE
- 5 REMOVE (E) OVERHEAD ROLLING SECURITY DOOR

DEMOLITION LEGEND

- (E) WALL
- (E) CONSTRUCTION
- (E) CONSTRUCTION TO BE REMOVED
- (E) FLOOR OR CEILING ASSEMBLY TO BE REMOVED, STRUCTURAL SLAB TO REMAIN
- (E) FLOOR FINISH TO BE REMOVED
- (E) WALL SYSTEM TO BE REMOVED
- (E) CEILING TO BE REMOVED



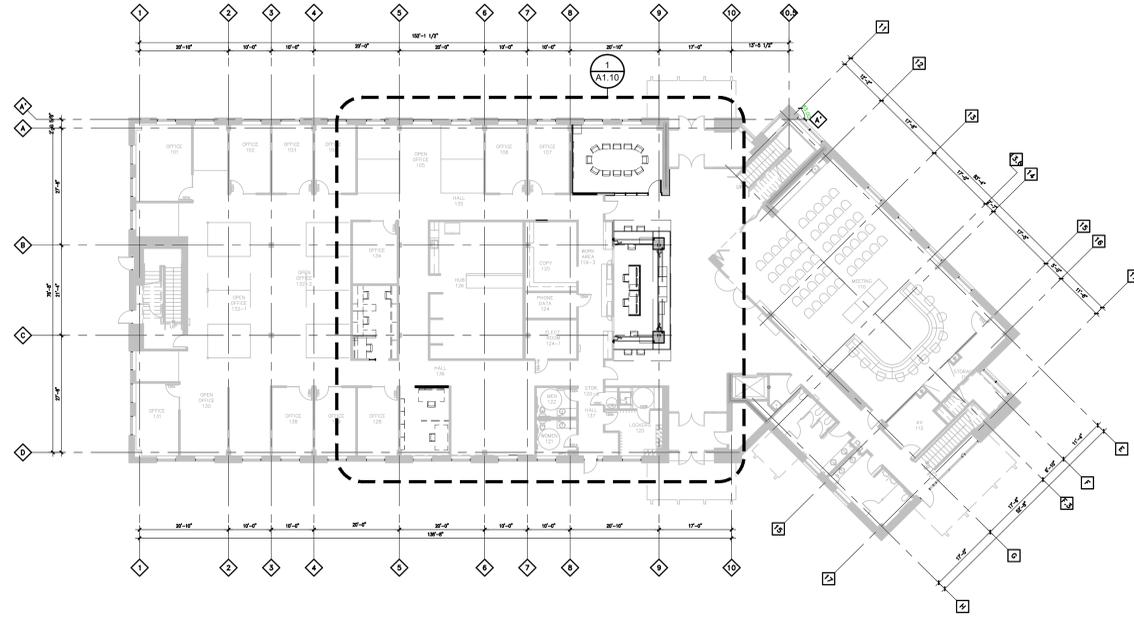
City of Wilsonville
29759 Town Center Loop East
Wilsonville, OR 97070

City Hall Renovation
29759 Town Center Loop East
Wilsonville, OR 97070

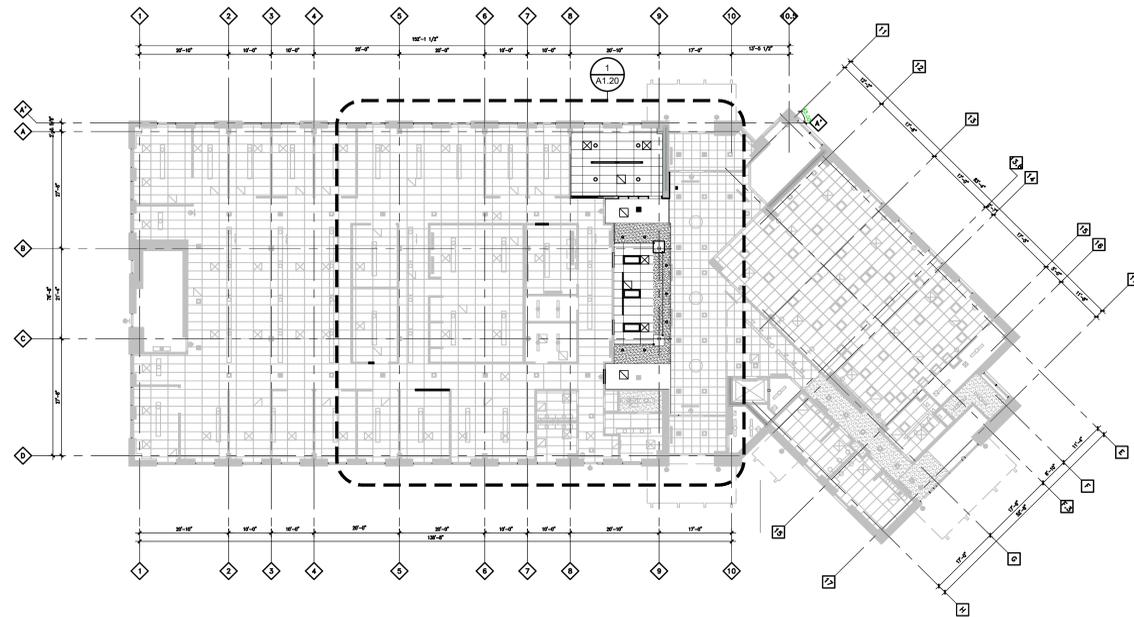
Date 10.04.2019
Project No. 05200
Revisions

LEVEL 01
ENLARGED CEILING
DEMO PLAN

AD1.20



1 LEVEL 01 - OVERALL FLOOR PLAN
1/16"=1'-0"



2 LEVEL 01 - OVERALL REFLECTED CEILING PLAN
1/16"=1'-0"

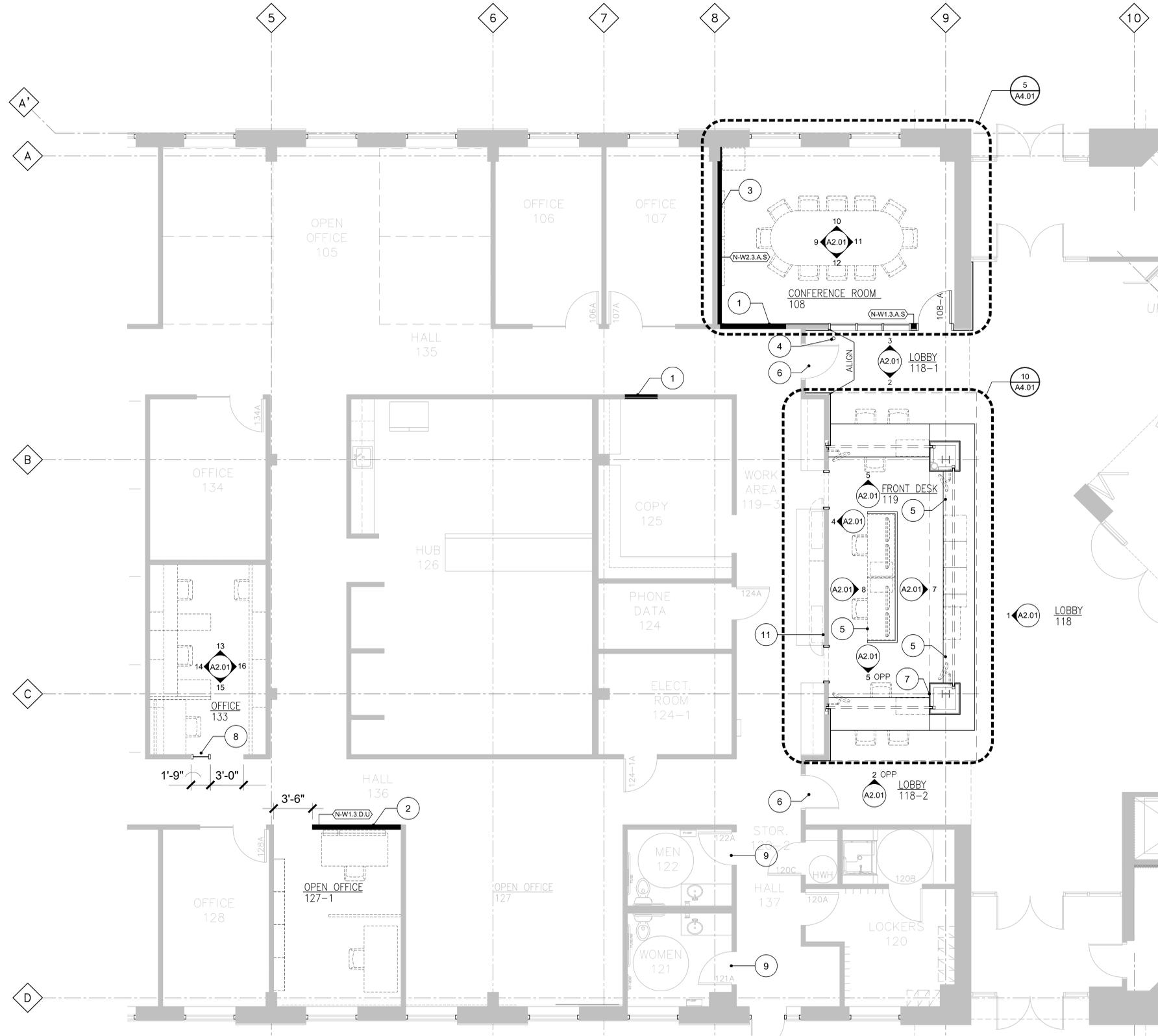
FLOOR PLAN NOTES

1. REFER TO SHEET G0.01 FOR GENERAL USE SYMBOLS, MATERIALS AND ABBREVIATIONS.
2. STUD SIZES TYPICALLY USED THROUGHOUT PROJECT ARE SHOWN - REFER TO WALL ASSEMBLIES SHEET FOR SIZES.
3. REF. SHEET A5.01 FOR WALL ASSEMBLIES.
4. DIMENSIONS SHOWN ARE TO FACE OF GYPSUM BOARD FINISH, UNLESS OTHERWISE NOTED. REFER TO ENLARGED PLANS FOR DIMENSIONS WITHIN THOSE AREAS.
5. CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FIELD. IF ANY DISCREPANCIES ARISE BETWEEN EXISTING CONDITIONS AND DESIGN DOCUMENTS, CONTRACTOR SHALL NOTIFY ARCHITECT.
6. FURNITURE IS SHOWN FOR REFERENCE ONLY IN A DASHED LINE, FURNITURE TO BE FOI.
7. PROVIDE NEW POWER AND DATA CONNECTIONS FOR ALL SYSTEMS SHOWN. COORDINATE LOCATIONS WITH OWNER.

KEYNOTES

FLOOR PLAN LEGEND

-  (E) WALL SHOWN HALF TONED
-  (N) WALL, SEE PLAN FOR WALL TYPES
-  (N) CARPET
-  FURNITURE - FOR REFERENCE ONLY
-  (N) CASEWORK
-  EDGE ABOVE.



1 ENLARGED PARTIAL FLOOR PLAN - LEVEL 01
1/4"=1'-0"

FLOOR PLAN NOTES

1. REFER TO SHEET G0.01 FOR GENERAL USE SYMBOLS, MATERIALS AND ABBREVIATIONS.
2. STUD SIZES TYPICALLY USED THROUGHOUT PROJECT ARE SHOWN - REFER TO WALL ASSEMBLIES SHEET FOR SIZES.
3. REF. SHEET A5.01 FOR WALL ASSEMBLIES.
4. DIMENSIONS SHOWN ARE TO FACE OF GYPSUM BOARD FINISH, UNLESS OTHERWISE NOTED. REFER TO ENLARGED PLANS FOR DIMENSIONS WITHIN THOSE AREAS.
5. CONTRACTOR TO VERIFY ALL DIMENSIONS IN THE FIELD. IF ANY DISCREPANCIES ARISE BETWEEN EXISTING CONDITIONS AND DESIGN DOCUMENTS, CONTRACTOR SHALL NOTIFY ARCHITECT.
6. FURNITURE IS SHOWN FOR REFERENCE ONLY IN A DASHED LINE, FURNITURE TO BE OFOI.
7. PROVIDE NEW POWER AND DATA CONNECTIONS FOR ALL SYSTEMS SHOWN. COORDINATE LOCATIONS WITH OWNER.

KEYNOTES

- 1 INFILL (E) OPENINGS WITH 5/8" GWB ON MTL STUDS AS REQ'D TO ALIGN WITH EXISTING ADJACENT WALL THICKNESS.
- 2 PROVIDE BLOCKING, POWER, AND DATA AS REQUIRED FOR RELOCATION OF (E) WALL-MOUNTED MONITORS FROM SOUTH WALL
- 3 NEW WALL IN FRONT OF EXISTING. MAINTAIN AIR GAP BETWEEN WALLS AND PROVIDE BLOCKING, POWER, AND DATA AS REQUIRED FOR (N) WALL-MOUNTED OFCI MONITORS
- 4 FLOOR-MOUNTED DOORSTOP
- 5 PROVIDE THREE (3) UNDER-COUNTER PANIC BUTTONS AT FRONT DESK. COORDINATE LOCATIONS WITH OWNER
- 6 MAINTAIN ELECTRIC LOCK ON DOOR. RELOCATE SWITCHES TO COORDINATE WITH NEW DESK LAYOUT, COORDINATE WITH OWNER
- 7 LOCATE CONTROLS FOR OVERHEAD COILING SECURITY DOORS ON BACK OF COLUMN, COORDINATE LOCATION WITH OWNER
- 8 NEW HOLLOW METAL SIDELIGHT
- 9 NEW ACOUSTIC PERIMETER SEAL & SWEEP AT RESTROOM DOOR. CONFIRM ANY REQ'D ROOM MAKE-UP AIR IS MAINTAINED WITH MECH.
- 10 RELOCATE ELEC SWITCHES/AV CONTROLS
- 11 RELOCATED ELEC SWITCH FROM OPPOSITE SIDE OF WALL

FLOOR PLAN LEGEND

- (E) WALL SHOWN HALF TONED
- (N) WALL, SEE PLAN FOR WALL TYPES
- (N) CARPET
- FURNITURE - FOR REFERENCE ONLY
- (N) CASEWORK
- EDGE ABOVE.

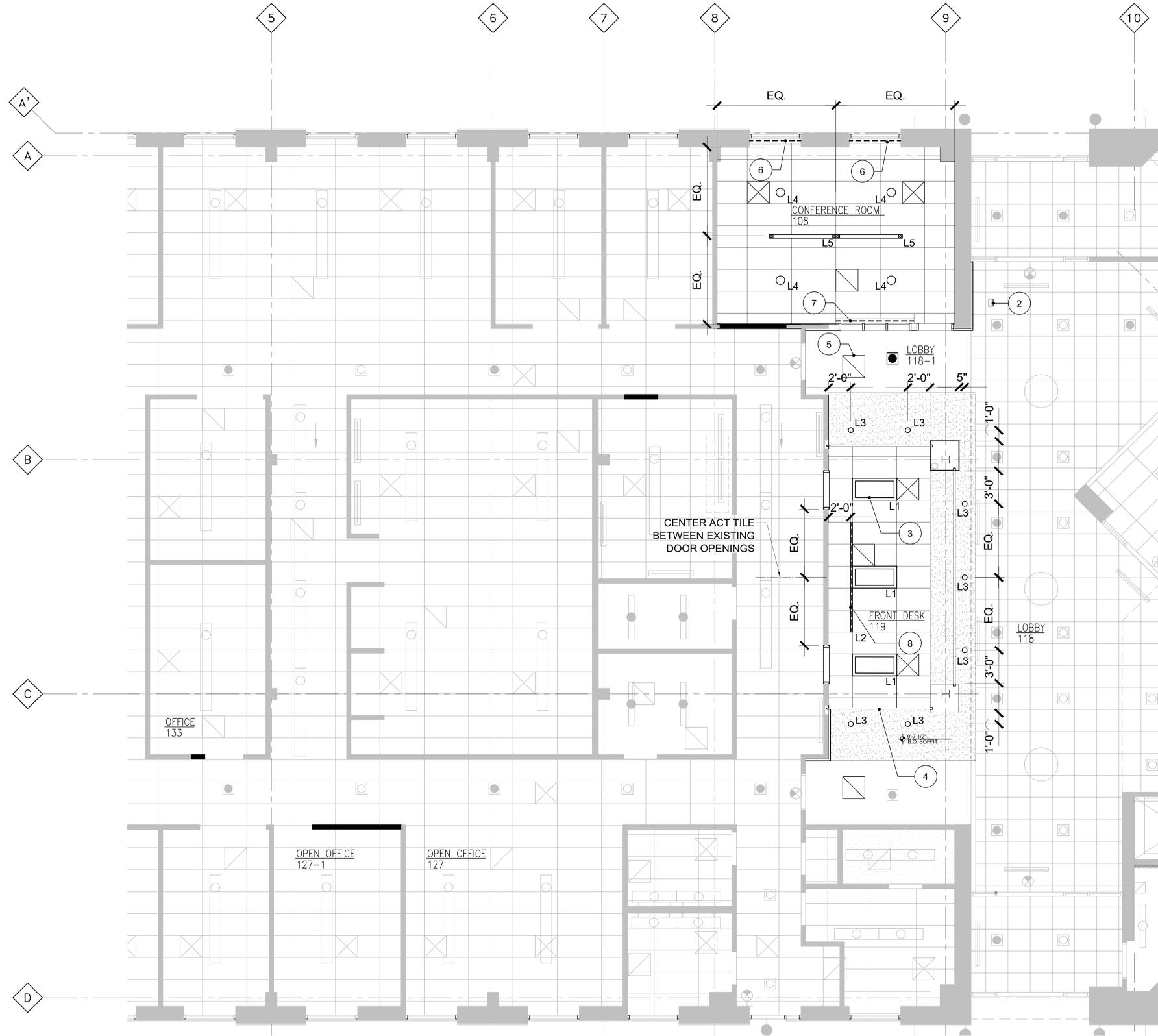


City of Wilsonville
29759 Town Center Loop East
Wilsonville, OR 97070

City Hall Renovation
29759 Town Center Loop East
Wilsonville, OR 97070

Date **10.04.2019**
Project No. **05200**
Revisions

ENLARGED FLOOR PLAN LEVEL 01
A1.10



1 ENLARGED REFLECTED CEILING PLAN - LEVEL 01
1/4"=1'-0"

CEILING PLAN NOTES

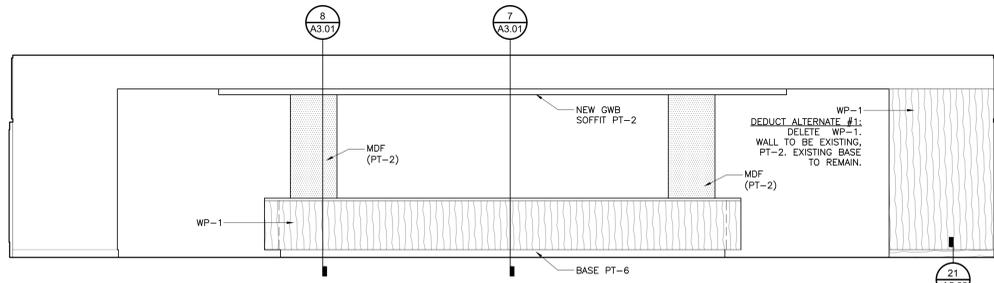
1. REFER TO ASSEMBLY SHEETS FOR CEILING ASSEMBLIES.
2. REFER TO FINISH SCHEDULE FOR FINISHES AND NOTES AT CEILINGS.
3. ALIGN FIXTURES, SMOKE DETECTORS, AND OTHER DEVICES AS INDICATED ON THE DRAWINGS. VERIFY PLACEMENT WITH ARCHITECT FOR DEVICES AND FIXTURES NOT SHOWN.
4. PROVIDE METAL STUD OR STEEL DIAGONAL BRACING TO STRUCTURE ABOVE CEILING AT 4'-0" O.C. MAXIMUM WHERE REQUIRED AT SOFFITS, COVES, PARTITIONS AND OTHER ASSEMBLIES WHETHER OR NOT INDICATED ON DRAWINGS.
5. NO EXPOSED CONDUIT OR MISC ELECTRICAL WIRING AT FINISHED CEILINGS.
6. DIMENSION LINES ARE TO CENTER OF FIXTURE UNLESS OTHERWISE NOTED.

KEYNOTES

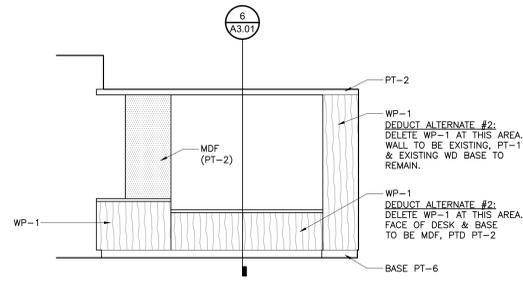
- 1 REMOTE DRIVERS REQUIRED TO BE INSTALLED WITH RECESSED LED DOWNLIGHTS. LOCATE IN ACT CEILING CAVITY.
- 2 NEW CEILING-MOUNTED FIRE STROBE.
- 3 LIGHTING TO BE TIED TO EXISTING BUILDING OCCUPANCY SENSORS
- 4 OPENING FOR CONCEALED SECURITY DOOR ABOVE
- 5 RELOCATED HVAC GRILLE
- 6 NEW BLACKOUT SHADES IN (E) SHADE POCKET
- 7 NEW BLACKOUT SHADE IN NEW SHADE POCKET TO MATCH (E)
- 8 WALL WASH FIXTURE TO BE ON DIMMER SWITCH

CEILING PLAN LEGEND

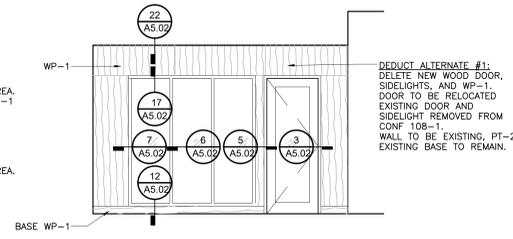
- LAY IN 2X4 LIGHT
- LINEAR - SUSPENDED
- LINEAR - RECESSED LED
- DOWNLIGHT - RECESSED
- C01: GYPSUM BOARD ASSEMBLY
- C02: ACOUSTIC CEILING TILE ASSEMBLY



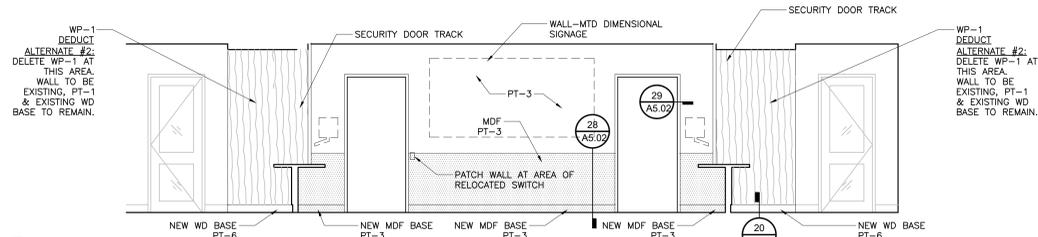
1 LOBBY 118 - NORTH
1/4"=1'-0"



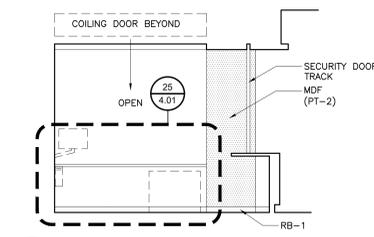
2 LOBBY 118-1 - WEST
1/4"=1'-0"



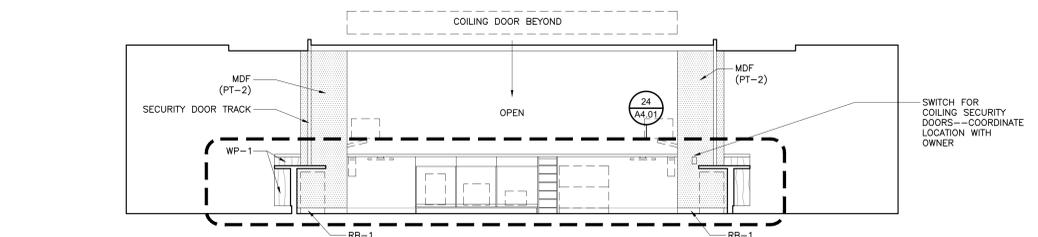
3 LOBBY 118-1 - EAST
1/4"=1'-0"



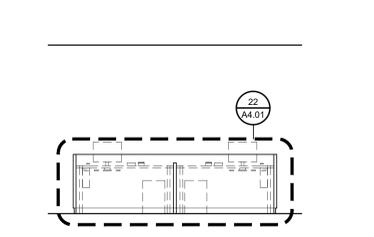
4 FRONT DESK 119 - NORTH
1/4"=1'-0"



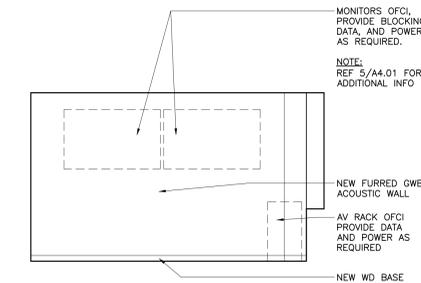
5 FRONT DESK 119 - EAST
1/4"=1'-0"



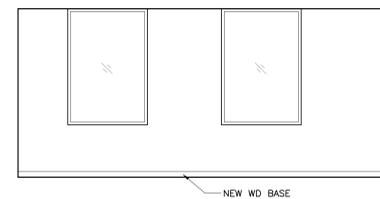
7 FRONT DESK 119 - SOUTH
1/4"=1'-0"



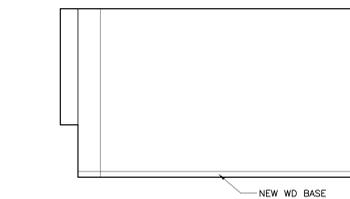
8 FRONT DESK 119 - SOUTH
1/4"=1'-0"



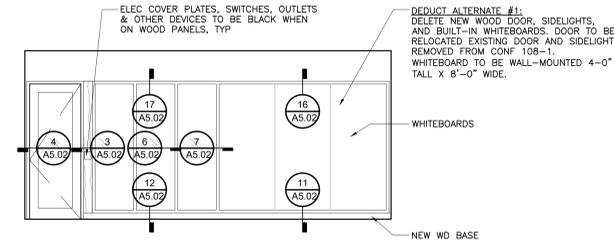
9 CONFERENCE ROOM 108 - NORTH
1/4"=1'-0"



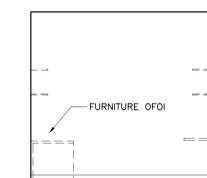
10 CONFERENCE ROOM 108 - EAST
1/4"=1'-0"



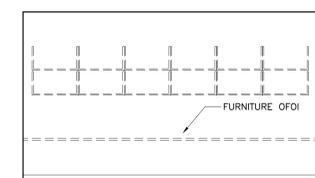
11 CONFERENCE ROOM 108 - SOUTH
1/4"=1'-0"



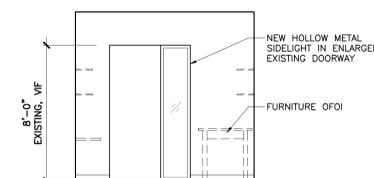
12 CONFERENCE ROOM 108 - WEST
1/4"=1'-0"



13 OFFICE 133 - EAST
1/4"=1'-0"



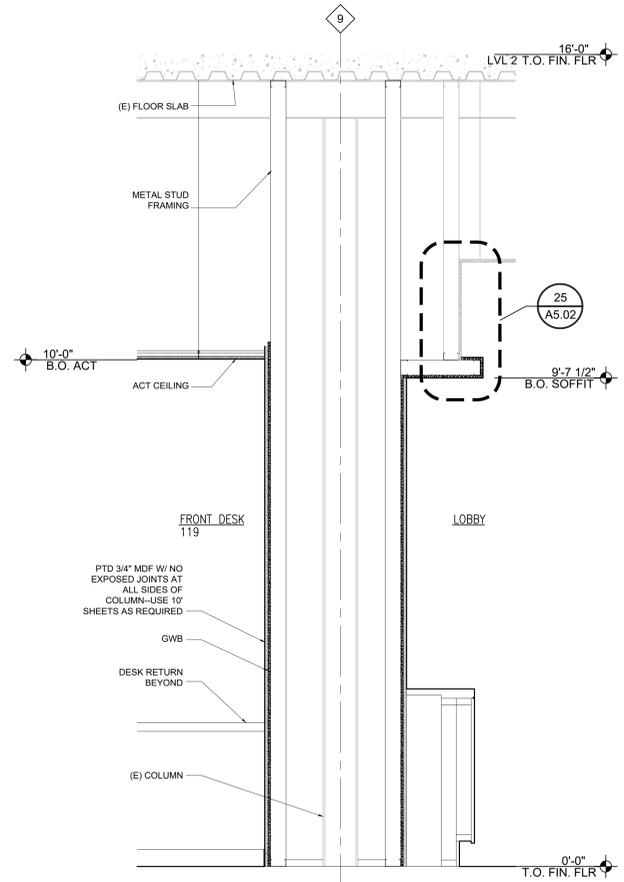
14 OFFICE 133 - NORTH
1/4"=1'-0"



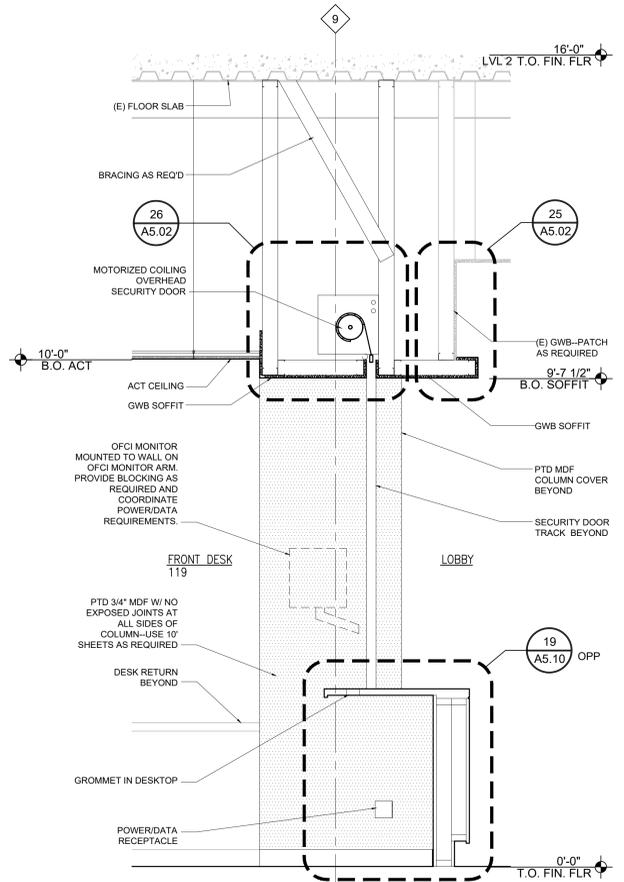
15 OFFICE 133 - WEST
1/4"=1'-0"



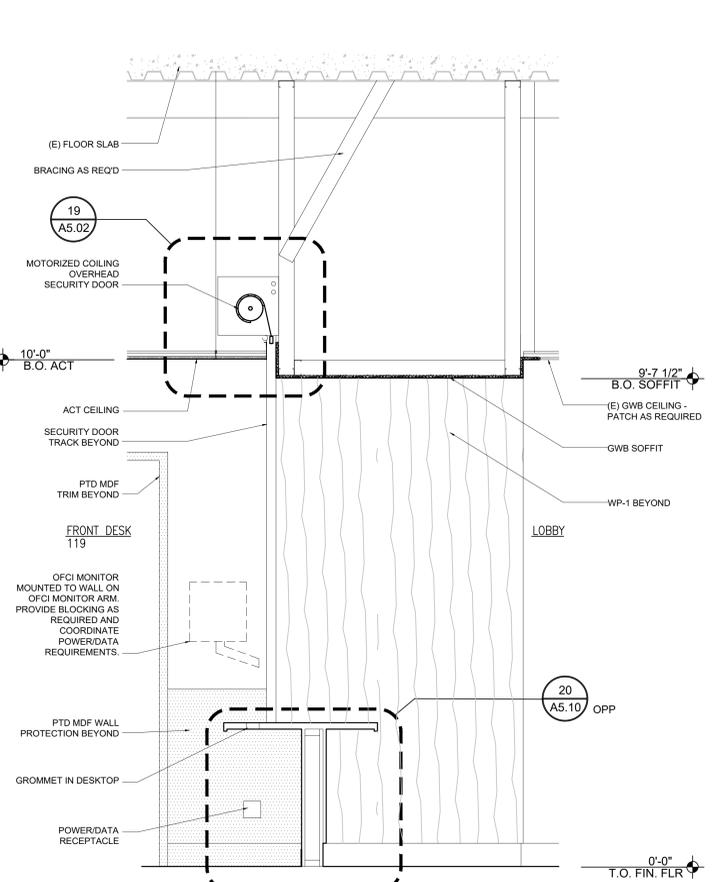
16 OFFICE 133 - SOUTH
1/4"=1'-0"



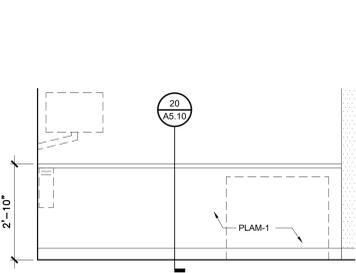
8 ENLARGED SECTION CASEWORK AND SOFFIT AT INFO DESK 3/8\"/>



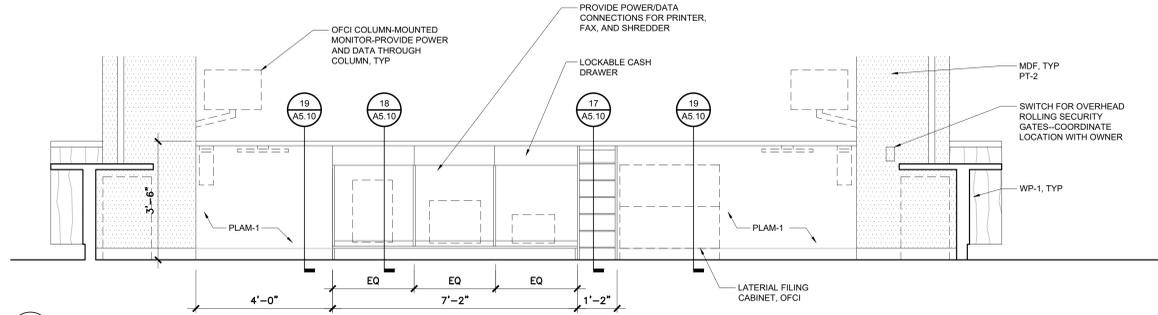
7 ENLARGED SECTION CASEWORK AND SOFFIT AT INFO DESK 3/8\"/>



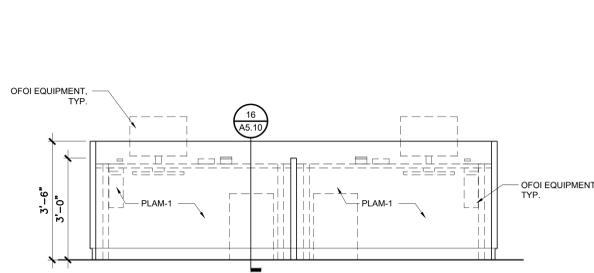
6 ENLARGED SECTION CASEWORK AND SOFFIT AT INFO DESK 3/8\"/>



25 FRONT DESK 119 - EAST
1/2"=1'-0"



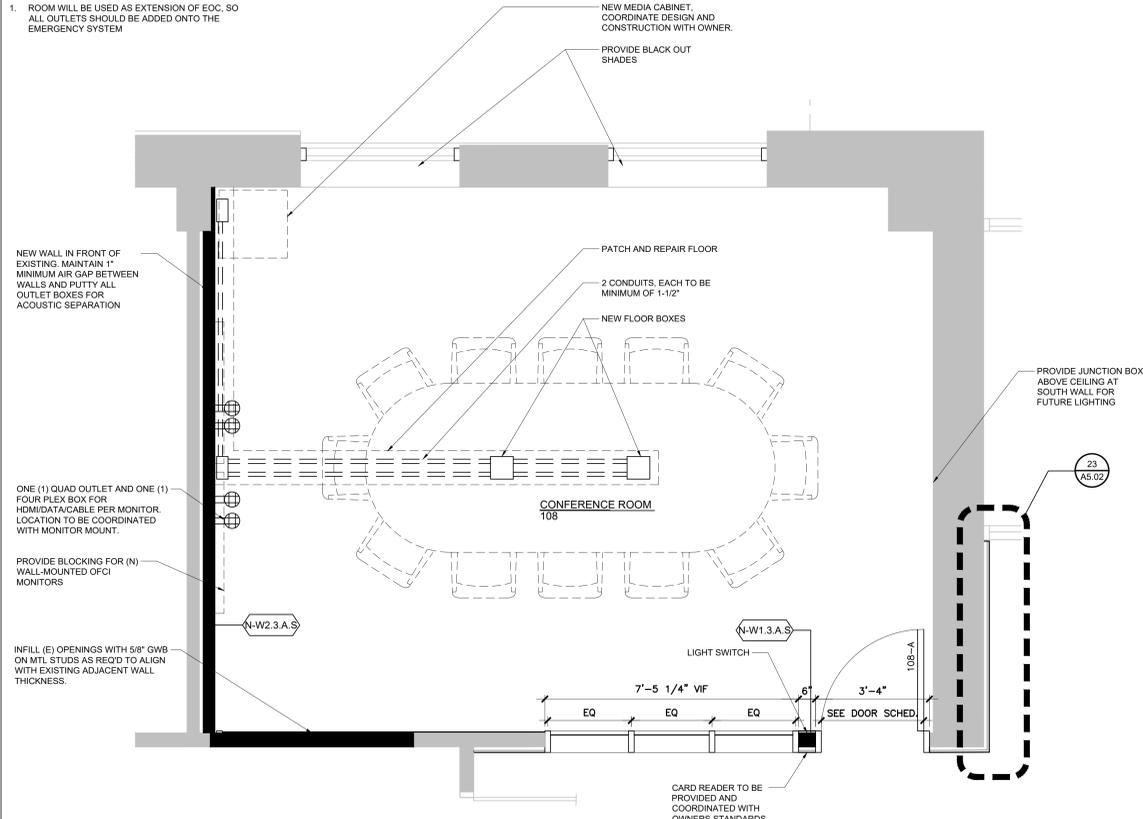
24 FRONT DESK 119 - SOUTH
1/2"=1'-0"



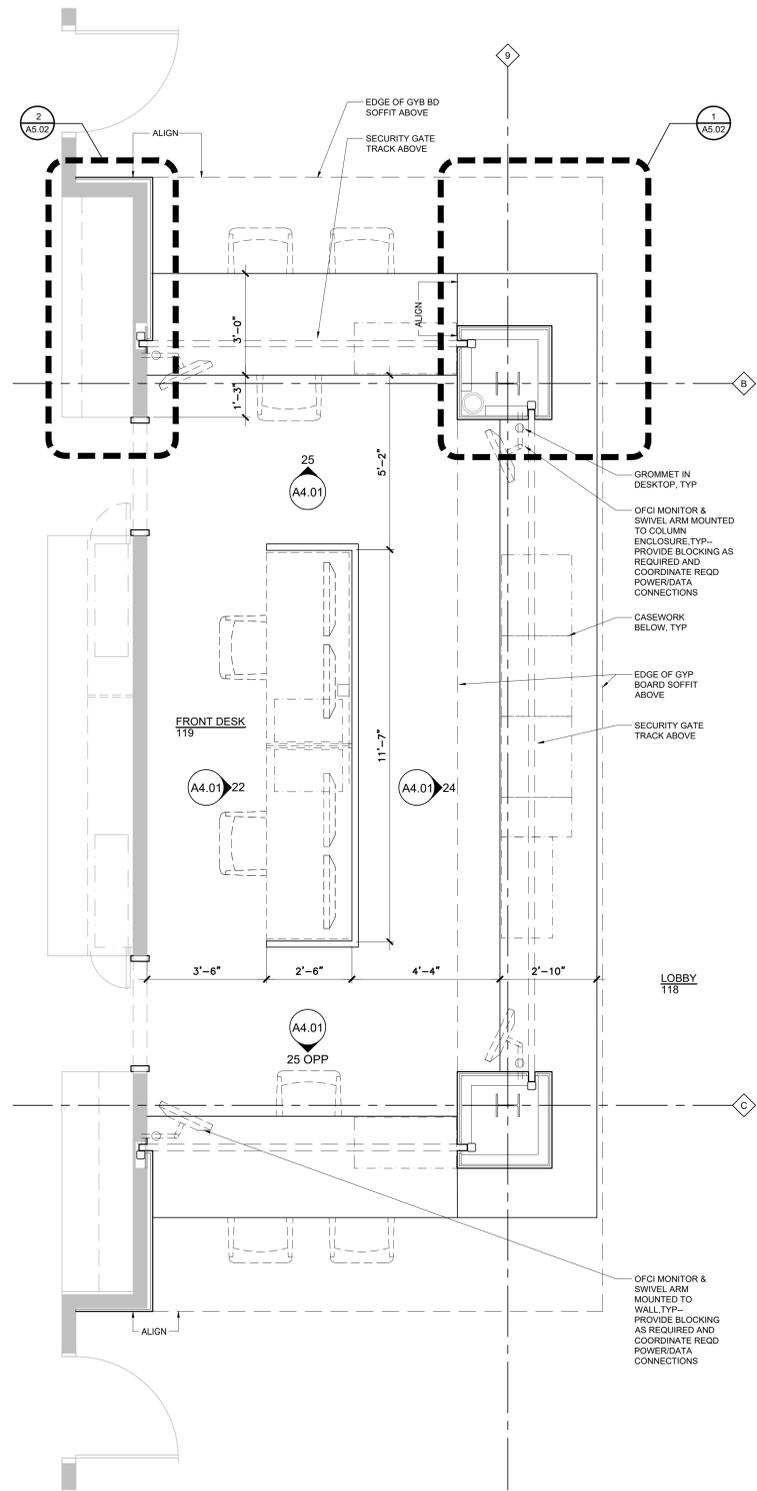
22 FRONT DESK 119 - SOUTH
1/2"=1'-0"

NOTES:

- ROOM WILL BE USED AS EXTENSION OF EOC, SO ALL OUTLETS SHOULD BE ADDED ONTO THE EMERGENCY SYSTEM

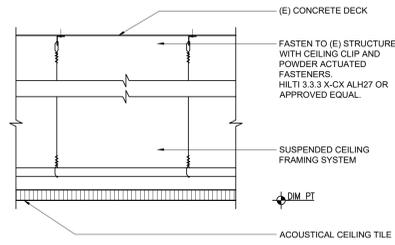


5 ENLARGED PLAN @ CONFERENCE ROOM 108
1/2"=1'-0"

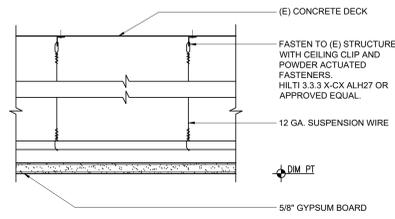


1 ENLARGED PLAN @ FRONT DESK 119
1/2"=1'-0"

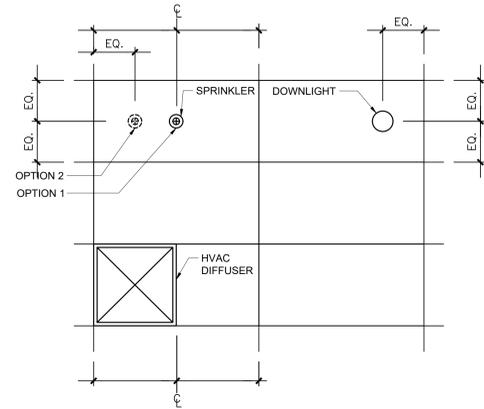
CEILING ASSEMBLIES



C1 SECTION
ACOUSTICAL CEILING TILE ASSEMBLY
3/4" = 1'-0"

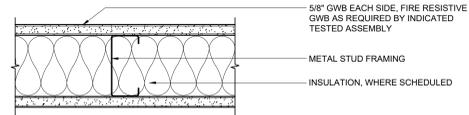


C2 SECTION
SUSPENDED GWB CEILING ASSEMBLY
3/4" = 1'-0"



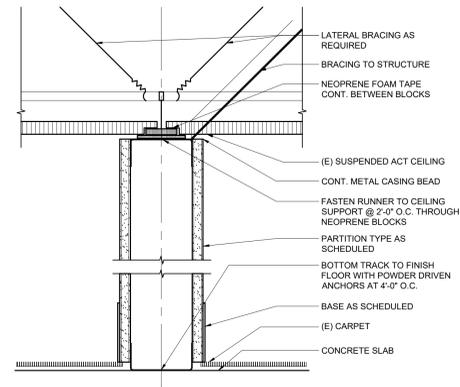
ACT CEILING GRID LOCATION CRITERIA
NTS

INTERIOR WALL ASSEMBLIES

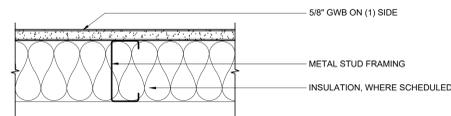


PARTITION RATING	METAL STUD SIZE	HEAD CONDITION	INSULATION TYPE
N - NON COMBUSTIBLE	2 - 2 1/2"	A - EXTEND FRAMING, INSULATION (WHERE SCHEDULED), AND GYPSUM BOARD TO STRUCTURE ABOVE	T - THERMAL
1 - 1 HOUR UL# U419	3 - 3 5/8"	B - EXTEND FRAMING, INSULATION (WHERE SCHEDULED), AND GYPSUM BOARD TO HEIGHT SHOWN	S - SOUND
	4 - 4"		U - UNINSULATED
	6 - 6"		
	8 - 8"		

W1 PLAN
INTERIOR WALL ASSEMBLY
3/4" = 1'-0"



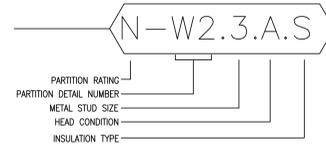
W1 SECTION
INTERIOR WALL ASSEMBLY
3/4" = 1'-0"



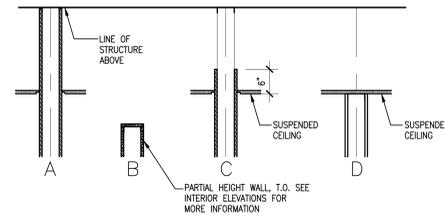
PARTITION RATING	METAL STUD SIZE	HEAD CONDITION	INSULATION TYPE
N - NON COMBUSTIBLE	2 - 2 1/2"	A - EXTEND FRAMING, INSULATION (WHERE SCHEDULED), AND GYPSUM BOARD TO STRUCTURE ABOVE	T - THERMAL
	3 - 3 5/8"	B - EXTEND FRAMING, INSULATION (WHERE SCHEDULED), AND GYPSUM BOARD TO HEIGHT SHOWN	S - SOUND
	4 - 4"		U - UNINSULATED
	6 - 6"		
	8 - 8"		

W2 PLAN
INTERIOR WALL ASSEMBLY
3/4" = 1'-0"

INTERIOR WALL ASSEMBLY LEGENDS



PARTITION TYPE SYMBOL
SEE PLANS & DETAILS FOR LOCATIONS



PARTITION HEAD CONDITION

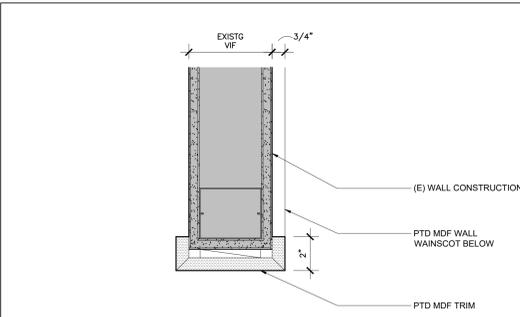
VERTICAL SPAN	METAL STUD SCHEDULE INTERIOR NON-BEARING STUDS (U.N.O.)			
	SIZE	GAUGE (MIL)	SPACING	SSMA
<14'-0"	2 1/2"	20 GA (33 MIL)	12" O.C.	2505125-33
	3 5/8"	20 GA (33 MIL)	16" O.C.	3625125-33
	4"	20 GA (33 MIL)	24" O.C.	4005125-33
	6"	25 GA (18 MIL)	24" O.C.	6005125-18
14'-0" TO 19'-0"	3 5/8"	18 GA (43 MIL)	12" O.C.	3625125-43
	4"	18 GA (43 MIL)	16" O.C.	4005125-43
	6"	20 GA (33 MIL)	24" O.C.	6005125-33
	8"	20 GA (33 MIL)	24" O.C.	8005125-33
19'-0" TO 22'-8"	4"	18 GA (43 MIL)	8" O.C.	4005125-43
	6"	20 GA (33 MIL)	16" O.C.	6005125-30
>22'-8"	6"	20 GA (33 MIL)	12" O.C.	6005125-30
	6"	18 GA (43 MIL)	16" O.C.	6005125-43

NOTES:
ABOVE SCHEDULE IS FOR NON-LOAD BEARING INTERIOR FRAMING ONLY.
MINIMUM REQUIRED LATERAL DEFLECTION OF L/240.
NON-LOAD BEARING INTERIOR WALLS MUST BE DESIGNED TO WITHSTAND A MINIMUM OF 5 PSF LATERAL LOAD.
PROVIDE 16 GA TRACKS.

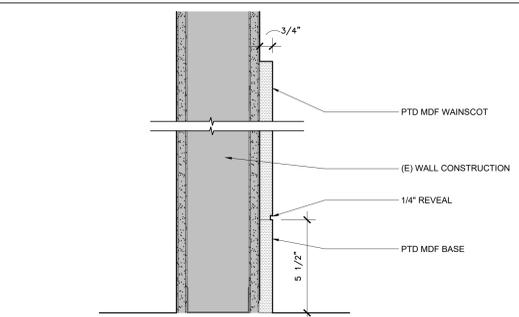
PARTITION TYPE SYMBOL
SEE PLANS & DETAILS FOR LOCATIONS

GENERAL NOTES

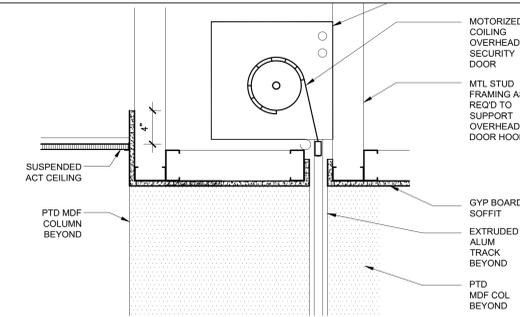
1. REFER TO SPECIFICATION AND FINISH SCHEDULE FOR WALL ASSEMBLIES AND FINISH INFORMATION. ALL WALL ASSEMBLIES ARE TYPE NW2AU, U.N.O.
2. PARTITION TYPES DEPICT WALL ASSEMBLIES ONLY. REFER TO INTERIOR ELEVATIONS, INTERIOR DETAILS AND FINISH SCHEDULE FOR FINISH INFORMATION.
3. GYPSUM BOARD TO BE TYPE "X", 5/8" THICK, U.N.O.
4. DIMENSIONS ARE TO FACE OF GYPSUM BOARD FINISH, U.N.O. REFERENCE INTERIOR FRAMING SCHEDULE FOR INTERIOR, NONBEARING FRAMING.
5. REFER TO CODE SHEETS FOR FIRE RESISTANCE RATING REQUIREMENTS AND EXTENT.
6. ATTACHMENT AND ASSEMBLY OF MATERIALS MUST COMPLY WITH REQUIREMENTS OF U.L. LISTINGS PER "FIRE RESISTANCE DIRECTORY," WHERE APPLICABLE.



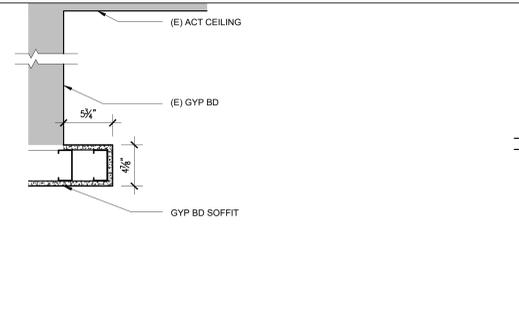
29 PLAN JAMB TRIM AT EXISTING OPENING (HEAD SIM) 3\"/>



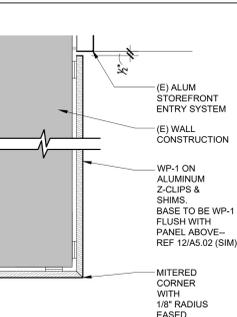
28 SECTION MDF WAINSCOT 3\"/>



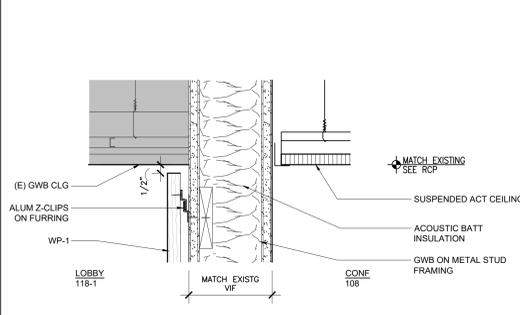
26 SECTION DETAIL - OVERHEAD DOOR 1-1/2\"/>



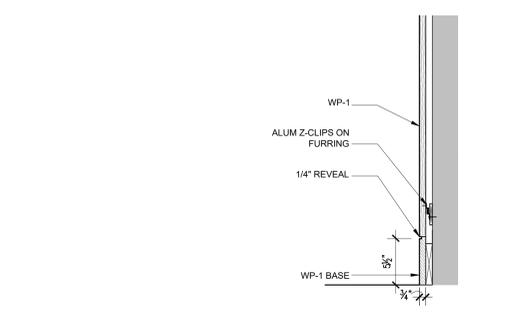
25 SECTION DETAIL - SOFFIT 1-1/2\"/>



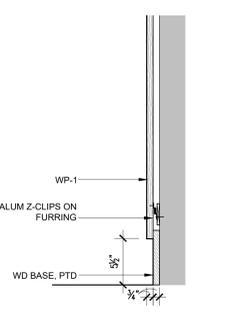
23 PLAN DTL - WD paneled walls 1-1/2\"/>



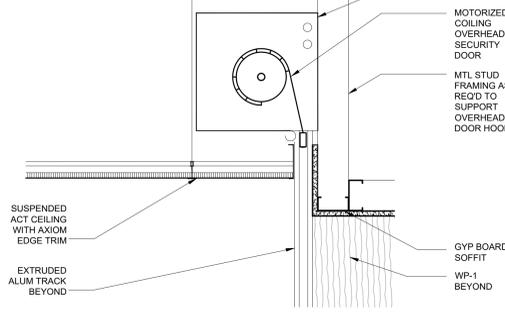
22 SECTION CEILING TRANSITION AT WOOD PANELING 3\"/>



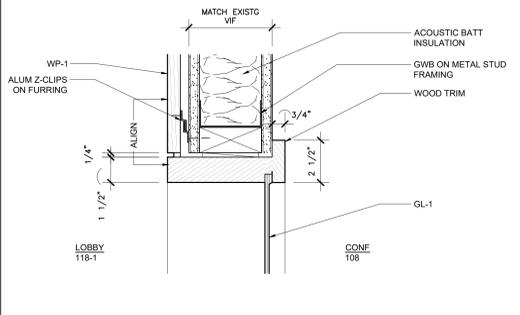
21 SECTION DTL - WOOD PANEL BASE 1-1/2\"/>



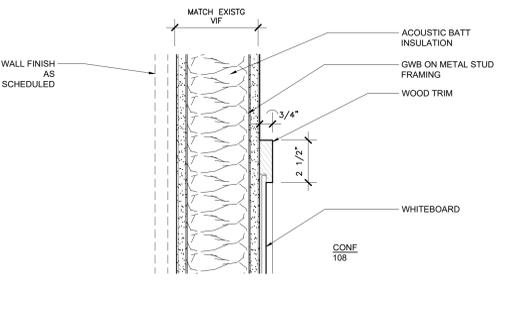
20 SECTION DTL - WOOD PANEL BASE 1-1/2\"/>



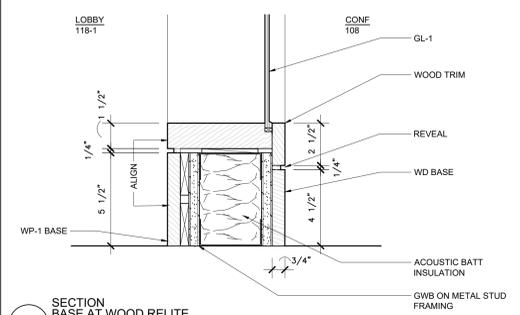
19 SECTION DETAIL - OVERHEAD DOOR 1-1/2\"/>



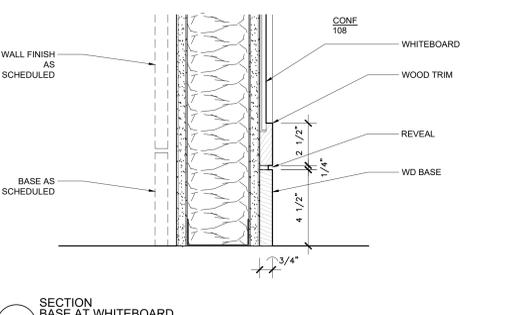
17 SECTION HEAD AT WOOD RELITE 3\"/>



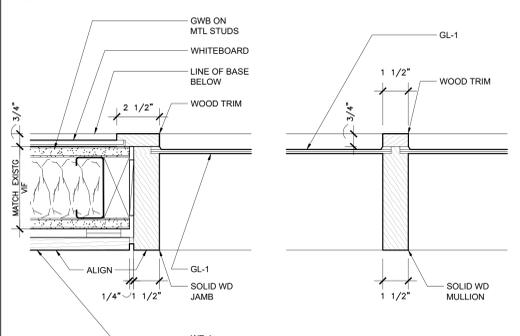
16 SECTION HEAD AT WHITEBOARD 3\"/>



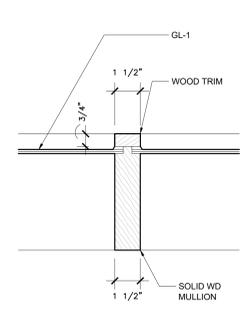
12 SECTION BASE AT WOOD RELITE 3\"/>



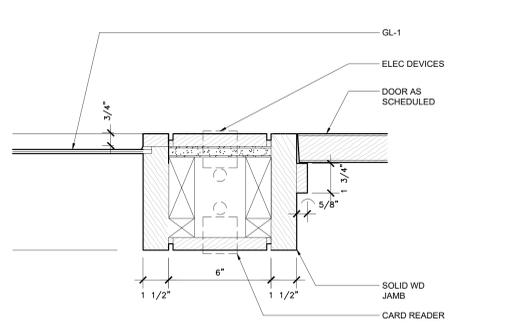
11 SECTION BASE AT WHITEBOARD 3\"/>



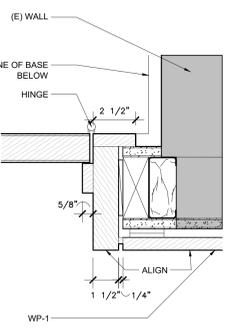
7 PLAN JAMB AT RELITE 3\"/>



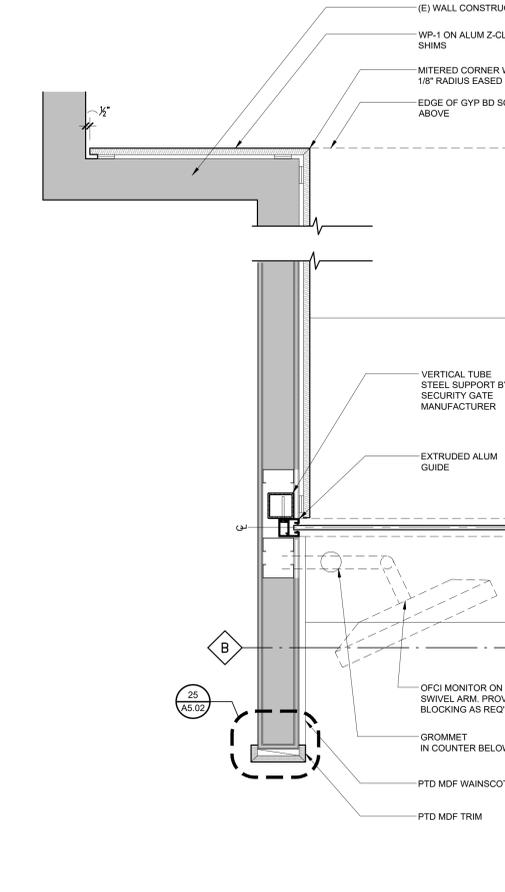
6 PLAN MILLION AT RELITE 3\"/>



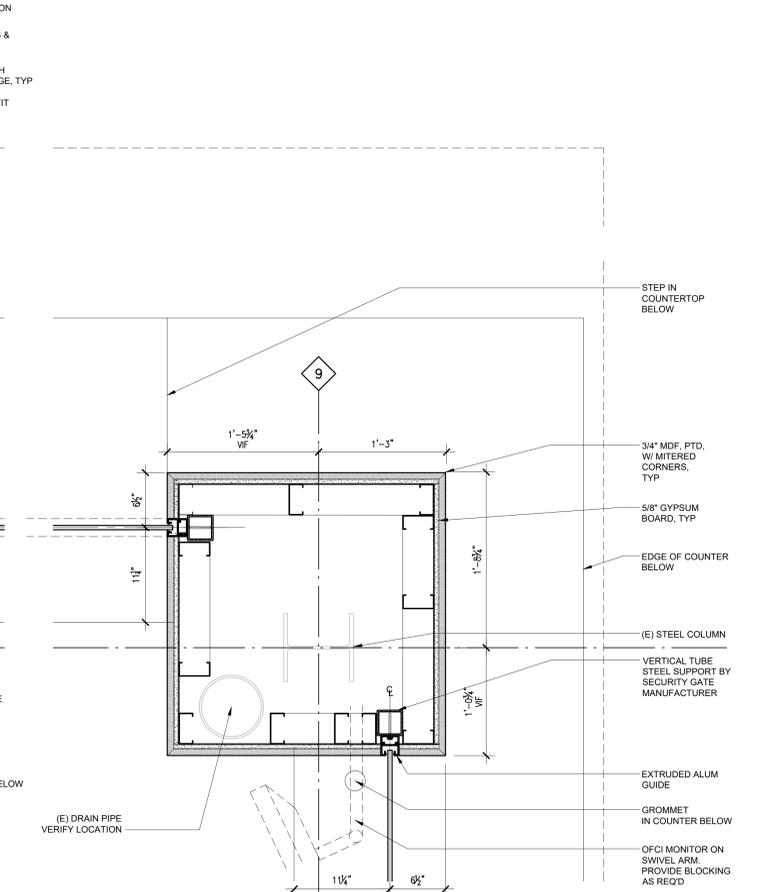
5 PLAN JAMB AT DOOR 3\"/>



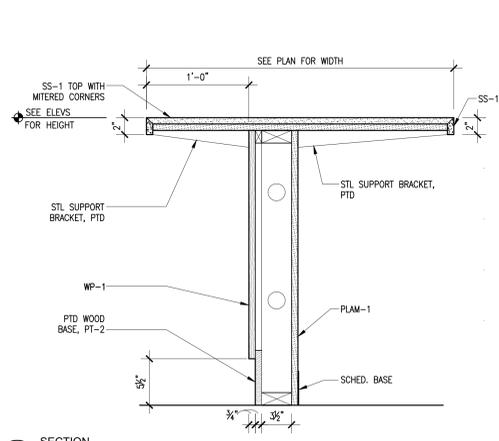
3 PLAN JAMB AT DOOR 3\"/>



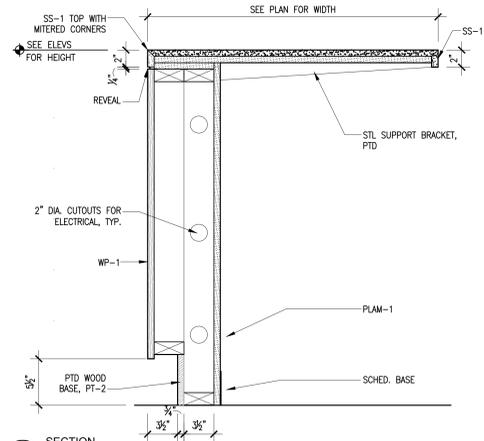
2 PLAN DETAIL - SECURITY GATE AT (E) WALL 1-1/2\"/>



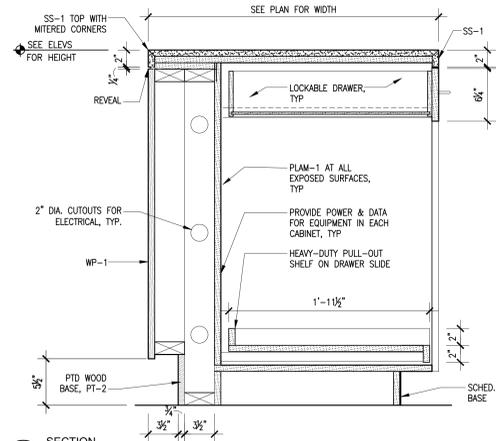
1 PLAN DETAIL - SECURITY GATE AT COLUMN 1-1/2\"/>



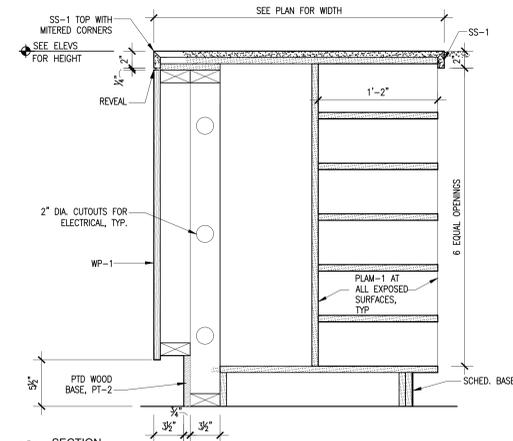
20 SECTION CASEWORK
1/12 x 1/4



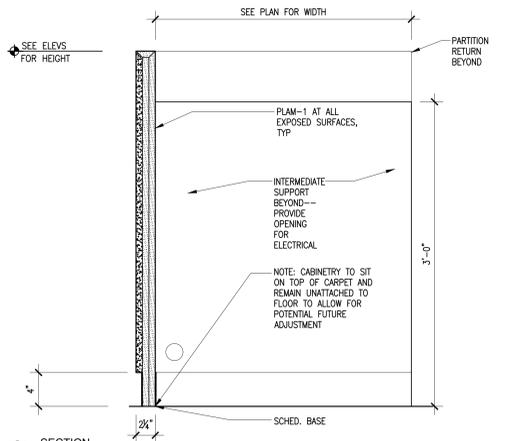
19 SECTION CASEWORK
1/12 x 1/4



18 SECTION CASEWORK
1/12 x 1/4



17 SECTION CASEWORK
1/12 x 1/4



16 SECTION CASEWORK
1/12 x 1/4

HARDWARE SCHEDULE

HARDWARE SET 01:
FUNCTION: CONFERENCE, MATCH BUILDING STANDARD, COORDINATE REQUIREMENTS WITH OWNER

DOOR SCHEDULE

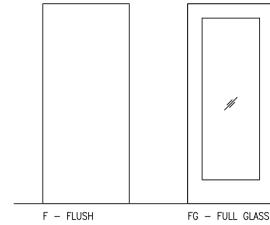
DOOR											FRAME					
REV	DOOR NUMBER	HARDWARE	ROOM NAME	PROFILE	WIDTH	HEIGHT	DOOR MATERIAL	PANEL FINISH	FIRE RATING	GLASS TYPE	FRAME MATERIAL	FRAME FINISH	JAMB DETAIL	HEAD DETAIL	THRESHOLD DETAIL	NOTE
	108-A	HW SET 01	CONFERENCE	FG	3'-0"	8'-0"	WD	CLR SEAL	NR	FROSTED	WD	CLR				1,2

- NOTES:
1. DOOR WITH SIDELIGHTS. DIMENSION OF DOOR RAILS AND STILES TO MATCH EXISTING ADJACENT DOOR TO NORTH. SEE INTERIOR ELEVATIONS.
2. DOOR GLAZING TO BE FROSTED TO MATCH EXISTING ADJACENT DOOR TO NORTH.

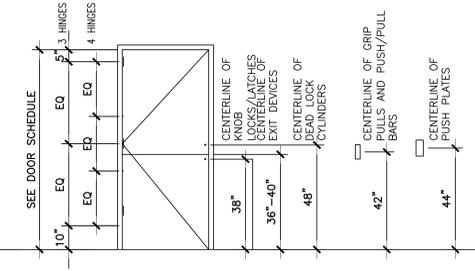
GENERAL NOTES

- DOOR CLEARANCE SHALL BE PER NFPA 89, SECTION 2-3.1.7 SUCH THAT THEY DO NOT EXCEED CONDITIONS CALLED OUT AS MINIMUM AND MAXIMUM.
- DOOR FRAMES THAT ARE FIRE RATED NEED TO BE FILLED WITH GROUT OR FIREPROOFING IN ORDER TO OBTAIN THEIR DESIGNATED RATING. THIS MAY NOT BE CALLED OUT IN THE NOTES COLUMN.
- ALL DOORS TO PROVIDE:
 - 1/2" MAX HIGH THRESHOLD (ABOVE FLOOR AND LANDING ON BOTH SIDES) UNLESS OTHERWISE NOTED.
 - MAX DOOR OPENING PUSH/PULL FORCE SHALL NOT EXCEED 5 LBS FOR EXTERIOR DOORS AND 5 LBS FOR INTERIOR DOORS. FIRE DOORS NOT TO EXCEED 15 LBS
 - SINGLE EFFORT, NON GRASPING HARDWARE CENTERED BETWEEN 30" AND 44" ABOVE FLOOR
 - 18" STRIKE SIDE X 60" DEEP ON PULL SIDE. 12" STRIKE SIDE X 48" AT PUSH SIDE.
- DOOR HARDWARE AT ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
- SCHEDULED DOOR HEIGHTS ARE APPROXIMATE AND VARY BASED ON EXISTING CONDITIONS. FIELD VERIFY PRIOR TO FABRICATION.

DOOR PROFILES



STANDARD MOUNTING HEIGHTS



DOOR ABBREVIATIONS

ALUM	ALUMINUM
ANNO CLR	CLEAR ANODIZED ALUMINUM
CW	CURTAINWALL
F	FLUSH
FB	FABRIC
FF	FACTORY FINISH
FG	FULL-GLAZED
G	GLAZED
GL	GLASS
GALV	GALVANIZED
HM	HOLLOW METAL
NR	NOT RATED
OD	OVERHEAD DOOR
PT	PAINT
SST	STAINLESS STEEL
STL	STEEL
VG	VISION GLASS PANEL
WD	WOOD

ROOM FINISH SCHEDULE

REV	NUMBER	NAME	FLOOR FINISH	CEILING FINISH	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	BASE	NOTES
	108	CONFERENCE	CPT-1	ACT-1	PT-4	PT-5	PT-5	PT-5	WD-1	
	118-1	LOBBY	(EXIST)	GWB	PT-1, WP-1	WP-1	N/A	WP-1, MDF	(EXIST), WD-1 (PTD WHERE NOTED)	3,4
	118-2	LOBBY	(EXIST)	GWB	PT-1, WP-1	WP-1, MDF	N/A	PT-1	(EXIST), WD-1 (PTD WHERE NOTED)	3,4
	119	FRONT DESK	CPT-1	ACT-1, GWB	PT-3	N/A	N/A	N/A	WD-1, PTD	4
	127-1	OPEN OFFICE	(EXIST)	(EXIST)	(EXIST)	PT-1	(EXIST)	(EXIST)	RB-1	1, 2
	133	OFFICE	(EXIST)	(EXIST)	PT-1	PT-1-2	PT-1	PT-1	RB-1	1, 2

- NOTES:
1. EXISTING CEILING GRID TO REMAIN IN PLACE TO GREATEST EXTENT POSSIBLE. PATCH, REPAIR, AND REPLACE ACOUSTICAL CEILING TILES AS REQUIRED.
2. EXISTING CARPETING TO REMAIN IN PLACE TO GREATEST EXTENT POSSIBLE. PATCH, REPAIR AND REPLACE CARPET TILES AS REQUIRED.
3. EXISTING STONE TILE FLOORING TO REMAIN. PROTECT EXISTING FLOORING DURING CONSTRUCTION.
4. REFER TO INTERIOR ELEVATIONS ON A2.01 FOR ADDITIONAL INFORMATION.

LIGHT FIXTURE SCHEDULE

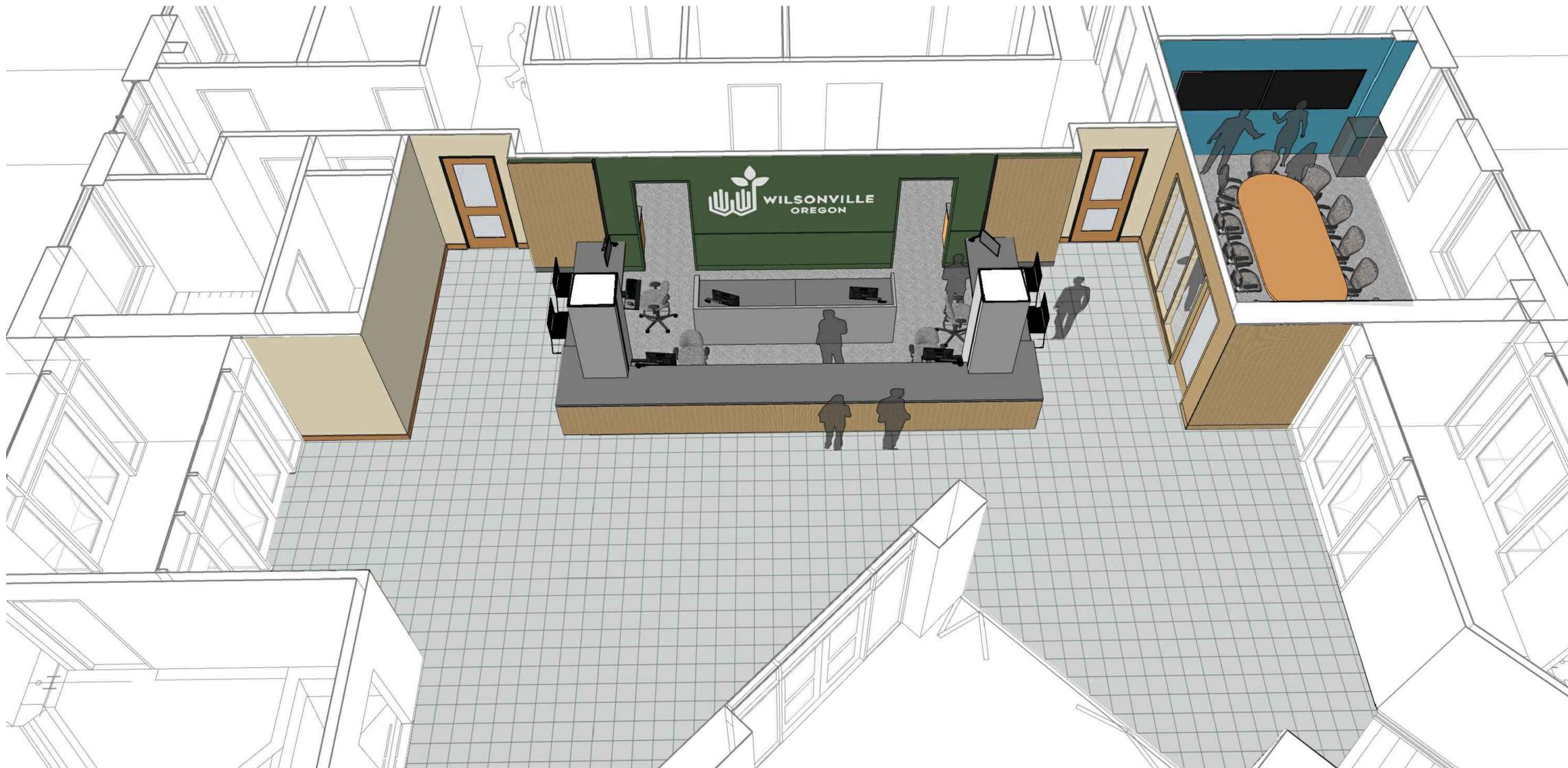
REV	TAG	TYPE/DESCRIPTION	MANUF/PRODUCT	LAMP	FIXTURE OPTIONS	FINISH	MOUNTING HEIGHT	NOTES
	L1	RECESSED 2X4 FIXTURE	MARK ARCHITECTURAL LIGHTING WHISPER LED	LED 4800LM, 4000K, 90CRI		WHITE	SEE RCP	
	L2	RECESSED LINEAR WALL WASH	FINELITE HP-2 WW-R-K-B-935-120/277-SC-C X	LED 3500K 90+ CRI	RECESSED	WHITE	SEE RCP	COORDINATE MOUNTING WITH EXISTING ACT T-BAR WIDTH, VIF. FIXTURE TO BE ON DIMMER SWITCH.
	L3	RECESSED DOWNLIGHT	JUNO 2" IC ROUND DOWNLIGHT CONE GEN2: 2LEDTG2C941F-BBL	LED 1000 LUMENS, 90CRI		HZSN: HAZE CONE, SATIN NICKEL TRIM	SEE RCP	
	L4	RECESSED DOWNLIGHT	INDY L4 SERIES J7.1.0G3	LED 4000K	HYPERBOLIC TRIM	WHITE	SEE RCP	
	L5	LINEAR PENDANT LIGHT	MARK ARCHITECTURAL LIGHTING SLOT 4 LED INDIRECT PENDANT WITH DOWNLIGHTS	LED 4100K		WHITE	SEE RCP	CONTINUOUS RUN OF (2) X 6' LENGTHS, EACH WITH SQUARE DOWNLIGHT AT EACH END (4 DOWNLIGHTS TOTAL)



1 VIEW LOOKING NORTH - FOR REFERENCE ONLY
N.T.S.



2 VIEW LOOKING NW - FOR REFERENCE ONLY
N.T.S.



3 AXON VIEW LOOKING NORTH - FOR REFERENCE ONLY
N.T.S.

-- This page intentionally left blank --

City of Wilsonville
CITY HALL RENOVATION

PROJECT MANUAL
SPECIFICATIONS DIVISIONS 01 - 26

CONSTRUCTION DOCUMENTS
October 4, 2019

DOCUMENT 00 01 00 - TABLE OF CONTENTS

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

00 01 00 Table of Contents

00 01 07 Seals Page

Note: See Section III for General Conditions and Supplementary Conditions of the Contract

-- Remainder of Division 00 provided by Owner's Project Representative --

DIVISION 01 - GENERAL REQUIREMENTS

01 10 00 Summary

01 20 00 Price and Payment Procedures

01 23 00 Alternates

01 25 00 Product Substitution Procedures

Form Substitution Request Form, Bid Phase

Form Substitution Request Form, Construction Administration Phase

01 26 00 Contract Modification Procedures

01 30 00 Administrative Requirements

01 30 00.01 Electronic Media Agreement

01 31 13 Project Coordination

01 32 16 Construction Progress Schedule

01 33 31 Sustainability Requirements

01 40 00 Quality Requirements

01 42 19 Reference Standards

01 45 17 Accessibility Requirements

01 50 00 Temporary Facilities And Controls

01 57 22 Construction Indoor Air Quality

01 60 00 Product Requirements

01 61 16 Delegated Design Requirements

01 73 00 Execution

01 74 19 Construction Waste Management And Disposal

01 77 00 Closeout Procedures

01 78 00 Closeout Submittals

01 79 00 Demonstration And Training

01 91 13 General Commissioning Requirements

DIVISION 02 -- EXISTING CONDITIONS

02 41 19 Selective Demolition

DIVISION 03 -- CONCRETE

- Not Used -

DIVISION 04 -- MASONRY

- Not Used -

DIVISION 05 -- METAL

05 50 00 Metal Fabrications

DIVISION 06 -- WOOD AND PLASTIC

06 10 00 Rough Carpentry

06 40 00 Architectural Woodwork

DIVISION 07 -- THERMAL AND MOISTURE PROTECTION

- Not Used -

DIVISION 08 -- OPENINGS

08 11 13 Hollow Metal Doors and Frames

08 33 23 Overhead Coiling Doors

08 71 00 Door Hardware

08 80 00 Glazing

DIVISION 09 -- FINISHES

09 22 16 Non-Structural Metal Framing

09 29 00 Gypsum Board

09 51 00 Acoustical Ceilings

09 65 00 Resilient Base and Accessories

09 68 13 Tile Carpeting

09 91 00 Painting

DIVISION 10 -- SPECIALTIES

10 11 01 Visual Display Boards

10 14 00 Signage

DIVISION 11 -- EQUIPMENT

- Not Used -

DIVISION 12 -- FURNISHINGS

12 24 13 Roller Window Shades

DIVISION 21 – FIRE SUPPRESSION

21 05 10 Bidder-Design Fire Suppression Systems

DIVISION 22 – PLUMBING

22 05 10 Bidder-Design Plumbing Systems

DIVISION 23 – HEATING VENTILATING AND COOLING

23 05 10 Bidder-Design HVAC Systems

DIVISION 26 – ELECTRICAL

26 05 10 Bidder-Design Electrical Systems

DIVISION 27 – STRUCTURED CABLING

27 05 10 Bidder-Design Data-Telecom Systems

DIVISION 28 – FIRE DETECTION AND ALARM SYSTEM

28 05 10 Bidder-Design Fire Protection and Alarm Systems

DRAWN DOCUMENTATION:

G0.01 DRAWING INDEX, SYMBOLS AND ABBREVIATIONS
G0.02 CODE SUMMARY, LIFE SAFETY PLAN & OCCUPANCY SAFETY PLAN
AD1.01 OVERALL DEMO PLAN & DEMO RCP - LEVEL 01
AD1.10 ENLARGED DEMO PLAN – LEVEL 01
AD1.20 ENLARGED DEMO RCP – LEVEL 01
A1.01 OVERALL FLOOR PLAN & RCP – LEVEL 01
A1.10 ENLARGED FLOOR PLAN – LEVEL 01
A1.20 ENLARGED RCP – LEVEL 01
A2.01 INTERIOR ELEVATIONS
A3.01 ENLARGED SECTIONS
A4.01 CASEWORK ELEVATIONS
A5.01 ASSEMBLY DETAILS
A5.02 PLAN & SECTION DETAILS
A5.10 CASEWORK DETAILS
A6.01 SCHEDULES
A9.01 3D VIEWS

END OF DOCUMENT

SECTION 00 01 07 – SEALS PAGE

ARCHITECT:

Woofter Architecture, PC
107 SE Washington St., Ste. 228
Portland, OR 97214
503.724.0111



END OF SECTION 00 0107

THIS PAGE INTENTIONALLY BLANK

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Owner-furnished products.
3. Access to site and premises.
4. Work restrictions.
5. Owner Occupancy.
6. Specification and Drawing conventions.

1.2 PROJECT

A. Project Name: City of Wilsonville City Hall Renovation

B. Owner's Name: City of Wilsonville.

1. Owner's Administration:

- a. OPM: Owner's Project Manager.
- b. OPR: Owner's Project Representative, as assigned by OPM.

2. In Divisions 22 through 26 Sections: "Owner" or "Owner's Representative" or a variation of these, means OPM or OPR.

C. Architect: Woofter Architecture; 107 SE Washington Street, Suite 228, Portland, OR 97214; (503) 724-0111; woofterarchitecture.com.

D. The Project consists of City Hall Renovation including the removal and replacement of the existing reception, planning and building desk including overhead security grills and all associated electrical and lighting systems in the desk area. The work in this area also includes creating a new larger conference room by eliminating a private office to create a larger more functional meeting room for City Hall staff, guests and visitors. In addition, the scope of work includes minor staff office renovations, including the extension of an interior wall and the reconfiguration of the Inspector's Office entry to accommodate a revised systems furniture layout.

1.3 OWNER-FURNISHED PRODUCTS

A. Owner will furnish products indicated. The Work includes receiving, unloading, handling, storing, protecting, and installing Owner-furnished products and making building services connections.

B. Owner-Furnished Products:

1. Monitors
2. Monitor Arms
3. Furniture

1.4 CONTRACTOR USE OF SITE AND PREMISES

A. 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.
3. Coordinate with Owner for required access during construction.

1.5 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours as set forth by the City of Wilsonville.

1.6 OWNER OCCUPANCY

- A. Owner intends to occupy the Project during construction.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations and Acronyms: See Drawings for standard and general abbreviations and acronyms.
 3. Keynoting: See Drawings for Keynoting definitions. Materials and products are identified by reference acronyms, unless indicated otherwise.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

- Not Used -

END OF SECTION

SUMMARY

SECTION 01 10 00 - 2

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Procedures for preparation and submittal of applications for progress payments.
 - 2. Procedures for preparation and submittal of application for final payment.
- B. Related Requirements:
 - 1. Section 01 26 00 "Contract Modification Procedures".

1.3 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified.
- B. Forms filled out by hand will not be accepted.
- C. Submit Schedule of Values in duplicate within 15 days after date of Contract execution.
- D. Format: Utilize the Bid Schedule of this Project Manual. Identify each line item with number and title.
- E. Revise schedule of values to list approved Change Orders by number, with each Application for Payment.

1.4 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Contract.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to OPM for approval.
- C. Forms filled out by hand will not be accepted.
- D. For each item, provide a column for listing each of the following:
 - 1. Bid item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed and Stored to Date of Application.
 - 8. Percentage of Completion.
 - 9. Balance to Finish.
 - 10. Retainage.

- E. Execute certification by signature of authorized officer.
 - F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
 - G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
 - H. Submit three copies of each Application for Payment.
 - I. Include the following with the application:
 - 1. Construction progress schedule, revised and current as specified in Section 01 30 00.
 - J. When OPM requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.
- 1.5 APPLICATION FOR FINAL PAYMENT
- A. Application for Payment at Substantial Completion: After receiving the Certificate of Substantial Completion from the OPR, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
 - 1. This application shall reflect work required for Final Acceptance (e.g. Punch List) and shall not include retainage amounts.
 - B. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
 - 1. Application for Final Payment will not be considered until all closeout procedures specified in Section 01 77 00 "Closeout Procedures" have been accomplished and the City has issued Final Acceptance.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

- Not Used -

END OF SECTION

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes administrative and procedural requirements for alternates.
- B. Related Sections: Sections referenced in Schedule of Alternates contain requirements necessary to achieve the Work described under each alternate.
- C. Alternate: An amount proposed by Proposer and stated in required Proposal submittals, to be added to or deducted from the stipulated sum for the Work amount when the Owner elects to implement the Scope of Work represented by the corresponding alternate as defined by the Contract Documents and including miscellaneous devices, appurtenances and accessories necessary and required for a complete installation regardless of whether specifically mentioned as part of the alternate.
 - 1. Alternate Amounts: Valid for 90 days from the submittal due date, and the Owner shall have the right to modify the Contract in accordance with the requirements for each and any Alternate at the amount quoted during that period.
 - 2. No adjustment to Contract Time will be made on the basis of acceptance or rejection of any Alternate(s).
- D. Submittals: Notification of status of alternates, accepted, rejected and deferred for later consideration; include description of accepted alternates affect on related and adjacent Work, and negotiated modifications to alternates.
- E. Sequencing and Scheduling: Modify and adjust adjacent work as required to ensure that work effected by each accepted Alternate is complete and fully integrated into the project.
- F. Notification: Immediately following award of Contract, prepare and submit notification of the status of each Alternate. Indicate whether Alternate is accepted, rejected or deferred. Include complete description of negotiated modifications to Alternates, if any.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Provide the work of each Alternate as identified herein and as required by the Contract documents. There shall be no change in the Contract Time nor required completion date for incorporation of any Alternate. Adjustments shall be limited to the sum indicated.
 - 1. Alternate 1: Conference Room 108 Door and Relite Frame and Wall Paneling.
 - a. Base Bid: Provide wood paneling, wood relite and door frame and new full lite wood door as shown by drawing 1/A2.01 and 3/A2.01 on the lobby side of the new Conference Room 108. Provide wood frame with integrated whiteboard, wood relite and door frame and new full lite wood door as shown by drawing 12/A2.01.

- b. Alternate: Reuse existing knock down hollow metal relite and door frame from demolition of existing Office and existing Conference Room door. Revise rough in opening accordingly and finish wall with gypsum board wall assembly finished to match existing and painted based on scheduled paint finish for room. Eliminate wood framed integrated whiteboard. Repair and paint existing gypsum board wall system with finish to match existing.
- 2. Alternate 2: Wall panels at Front Desk 119 and Front Desk Apron.
 - a. Base Bid: Provide wood paneling on existing walls as shown by drawing 4/A2.01 and wood panel casework apron below counter surface as shown by drawing 2/A2.01 and opposite side.
 - b. Alternate: Remove wood paneling on existing walls, repair existing wall and paint. Refer 4/A2/01. Replace wood panel casework apron below counter with pointed MDF casework. Refer 2/A2.01.

END OF SECTION

SECTION 01 25 00 - PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general requirements for the Work in relation to substitutions and product options.

1.3 REQUESTS FOR SUBSTITUTIONS

- A. Requests for substitution of products in place of those specified shall be in accordance with Instructions to Bidders, and as specified herein.
- B. Requests for substitution shall be submitted by subcontractors to the General Contractor.
- C. Requests for substitution shall be submitted to the OPR by the General Contractor.

1.4 CONTRACTOR'S RESPONSIBILITIES

- A. Review subcontractor requests for substitution for adherence to the requirements herein and applicability and appropriateness to the Project requirements. Only submit to the OPR those requests for substitution which meet the requirements.
- B. Investigate proposed substitution products and determine that they are equal or superior in all respects to products specified.
- C. Provide same guarantee for accepted substitutions as for products specified.
- D. Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects, without additional cost to the Owner or the design team.

1.5 SUBSTITUTIONS DURING CONSTRUCTION

- A. Substitutions will only be considered after date of Contract.
- B. Within a period of thirty (30) days after date of Contract, the Owner may, at its option, consider formal written requests for substitution of products in place of those specified, when submitted in accordance with the requirements stipulated herein.
- C. One or more of the following conditions must be documented and substantiated in any such request:
 - 1. Specified product is no longer available.
 - 2. Specified product is no longer compatible, due to changes in the design during construction.
 - 3. A change in governing regulatory requirements makes a revision in design or material usage mandatory.
 - 4. Substitution offers the owner a substantial advantage in cost, time, energy conservation, or other considerations (provide substantiation for review).

1.6 SUBSTITUTIONS NOT PERMITTED

- A. Products implied on submittals which have not been specified or approved through the proper substitution process will be rejected.
- B. Substitutions will be rejected if acceptance will require substantial revision of the Contract Documents, and the submitter has not indicated intent or ability to compensate the design team for such revisions.

1.7 FORMS

- A. Utilize the CSI Substitution Request Form as revised and appended to This Section.
 - 1. Substitution Request Form for Substitution Requests During Construction Administration Phase.

PART 2 - PRODUCTS

- NOT USED -

PART 3 - EXECUTION

- NOT USED -

END OF SECTION

**SUBSTITUTION REQUEST FORM
For Substitution Requests During
Construction Administration**

Advancement of Construction Technology
The Construction Specifications Institute

TO: _____

PROJECT: _____

SPECIFIED ITEM:

Section	Page	Paragraph	Description
---------	------	-----------	-------------

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: _____

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

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

The undersigned states that the substitution is requested DUE TO AT LEAST ONE of the following conditions (indicate and substantiate condition in attachments; failure to identify one of these conditions will result in rejection of the substitution):

1. SPECIFIED PRODUCT IS NO LONGER AVAILABLE.
2. SPECIFIED PRODUCT IS NO LONGER COMPATIBLE, DUE TO CHANGES IN THE DESIGN DURING CONSTRUCTION.
3. A CHANGE IN GOVERNING REGULATORY REQUIREMENTS MAKES A REVISION IN DESIGN OR MATERIAL USAGE MANDATORY.
4. SUBSTITUTION OFFERS THE OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, ENERGY CONSERVATION, OR OTHER CONSIDERATIONS (Provide substantiation for review).

The undersigned further states that the function, appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.

Submitted by:

For use by Design Consultant:

Signature _____

Firm _____

Address: _____

Date: _____

Telephone: _____

Attachments: _____

<input type="checkbox"/>	<input type="checkbox"/>
Accepted	Accepted as noted
<input type="checkbox"/>	<input type="checkbox"/>
Revise and Resubmit	Not Accepted

By: _____

Date: _____

Remarks: _____

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 1 Section "Product Substitution Procedures" for administrative procedures for handling requests for substitutions made after Contract award.
- C. Contract modification procedures identified in the General Construction Contract Document supersedes all provisions of this Section 01 26 00 "Contract Modification Procedures", in all cases.

1.2 MINOR CHANGES IN THE WORK

- A. OPM will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.3 MODIFICATION PROCEDURES, GENERAL

- A. For changes involving adjustment to the Contract Sum or the Contract Time, OPM will issue a document signed by the Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
 - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
- B. For changes proposed by Owner for which advance pricing is desired, OPM will issue a proposal request. Contractor shall prepare and submit a fixed price quotation within 14 days.
- C. Contractor may propose a change by submitting a request for change to OPR, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 25 00. See "Contractor-Initiated Proposals" Article below for outlined requirements.
- D. On Owner's approval of a Proposal Request, OPM will issue a Change Order for signatures of Owner and Contractor. Change orders shall be consolidated on a monthly basis.
- E. For change orders, presentation of costs need to be per approved allocation format of Schedule of Values.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 - 1. For change requested by Owner or Contractor for work not covered by unit prices within the Scheduled of Values, the amount will be based on negotiated fixed price.
 - 2. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.
- G. Substantiation of Costs: Provide full information required for evaluation.
 - 1. Provide following data:
 - a. Quantities of products, labor, and equipment.

- b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.
 - e. Credit for deletions from Contract, similarly documented.
2. Support each claim for additional costs with additional information:
- a. Dates and times work was performed, and by whom.
 - b. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
- H. Execution of Change Orders: OPM will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- K. Promptly enter changes in Project Record Documents.
- 1.4 PROPOSAL REQUESTS
- A. Owner-Initiated Proposal Requests: OPR will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
- 1. Proposal Requests issued by OPR are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to OPR or OPM.
- 1. For proposal requests, presentation of costs need to be per approved allocation format of Schedule of Values.
 - 2. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

3. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 5. Include costs of labor and supervision directly attributable to the change.
 6. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 7. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: None specified.
- 1.5 CONSTRUCTION CHANGE DIRECTIVE
- A. Construction Change Directive:
1. On Owner's approval of a Construction Change Directive, OPM may issue a Construction Change Directive. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 2. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation:
1. Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 2. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS

--Not Used--

PART 3 - EXECUTION

--Not Used--

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Preconstruction meeting.
2. Progress meetings.
3. Coordination drawings.
4. Request for information/ interpretation (RFI) procedures.
5. Submittal procedures.
6. Mockup Procedures.

B. Related Requirements:

1. Section 01 32 16 "Construction Progress Schedule".

1.3 PROJECT COORDINATION

- A. See Section 01 31 13 "Project Coordination".
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for Site access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
- G. Make the following types of submittals to OPR:
 1. Requests for substitution.
 2. Requests for information/ interpretation (RFI).
 3. Shop drawings, product data, and samples.
 4. Test and inspection reports.
 5. Design data.
 6. Manufacturer's instructions and field reports.
 7. Applications for payment and change order requests.
 8. Progress schedule: Refer to Section 01 32 16.
 9. Coordination drawings.

10. Closeout submittals.
- H. Coordination Digital Data Files, from Architect: Architect and Engineer will furnish, where requested, digital data files of Drawings for use in preparing coordination drawings.
 1. Architect makes no representations to the accuracy or completeness of digital files provided.
 2. Contractor shall execute the data licensing agreement, titled "Electronic Media Agreement", appended to This section.
- I. Reviews: For submittal, RFI and other document review, see procedures below for allotted duration.
 1. As applicable, Architect shall notify Owner and Contractor during specified review time upon receipt, during progress meetings, where additional review time is required for review.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

3.1 PRECONSTRUCTION MEETING

- A. Contractor shall schedule a meeting after Notice of Award.
- B. Attendance Required:
 1. Owner's Representative/ Project Manager.
 2. Architect.
 3. General Contractor.
- C. Optional Attendance: As determined by Owner Representative.
- D. Agenda:
 1. Execution of Owner-Contractor Construction Contract.
 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.
 6. Procedures and processing of field decisions, submittals, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 7. Scheduling.
- E. Contractor shall record minutes and distribute copies within two days after meeting to Owner, other meeting participants, and those affected by decisions made.

3.2 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum weekly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.
 - D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems which impede planned progress.
 - 5. Review of submittal/ RFI schedule and status of each.
 - 6. Maintenance of progress schedule.
 - 7. Corrective measures to regain projected schedules.
 - 8. Planned progress during succeeding work period.
 - 9. Maintenance of quality and work standards.
 - 10. Effect of proposed changes on progress schedule and coordination.
 - 11. Other business relating to Work.
 - E. 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.
- 3.3 CONSTRUCTION PROGRESS SCHEDULE
- A. Refer to Section 01 32 16.
- 3.4 COORDINATION DRAWINGS
- A. Provide information required by Project Coordinator for preparation of coordination drawings.
 - B. Review drawings prior to submission to OPR.
 - C. See Section 01 31 13 "Project Coordination".
- 3.5 REQUEST FOR INFORMATION PROCEDURES
- A. Transmit each request for information/ interpretation with Contractor's standard form, electronically submitted.
 - 1. Include drawing and/ or specification section for each item.
 - 2. Do not submit requests with multiple, unrelated scopes of work. Requests submitted that cover multiple issues or requests shall be rejected.
 - B. Sequentially number form. Revise requests with original number and a sequentially alphabetic suffix.
 - C. For each request and revised request, allow seven (7) calendar days, starting from the time received by OPR, except as follows:
 - 1. As requested during progress meetings.
 - D. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
 - E. Provide space for Contractor, Architect/ Engineer to review.
 - F. When revised for resubmission, identify all changes made since previous submission.

- G. Distribute copies of reviewed requests as appropriate. Instruct parties to promptly report any inability to comply with requirements.

3.6 SUBMITTAL PROCEDURES

- A. Transmit each submittal with a transmittal indicating date of submission, recipient and sender, and description of each item either physical samples or electronically submitted. Include submittal number and specification section for each item included in submittal.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Submittals shall be in digital format only and transmitted electronically except for physical samples. Deliver samples to Architect at business address or to address request by Architect.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review and resubmittal, allow fourteen (14) calendar days, excluding delivery time to and from the Contractor, except as follows:
 - 1. As requested during progress meetings.
- H. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor, Architect and Engineer to review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.
- M. Submittal Format:
 - 1. Form of Documents: Submittals are preferred to be delivered electronically in Portable Document Format (PDF), and followed by one (1) set of printed copies, as directed.
 - a. Minimize or compress file size prior to transmitting.
 - b. If not submitting electronically, provide three (3) sets of printed copies, except provide four (4) sets for submittals requiring review by sub-consultants to the Architect.
 - 2. Documents for Review: Provide PDF and printed formats; small size sheets.
 - 3. Documents for Information: Provide PDF and printed formats; small size sheets.
 - 4. Documents for Project Closeout: Provide PDF and printed formats; small size sheets, format not larger than 8-1/2 x 11 inches.
 - 5. Samples: Submit the number specified in individual specification sections.
 - a. After review, produce duplicates as needed for field quality review, as directed or required.
 - b. Retained samples will not be returned to Contractor unless specifically so stated.
- N. Submittals for Review:

1. When the following are specified in individual sections, submit them for review:
 - a. Product data.
 - b. Shop drawings.
 - c. Samples for selection.
 - d. Samples for verification.
 2. Provide to Construction Manager for Submission to OPR, for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 3. Samples will be reviewed only for aesthetic, color, or finish selection.
 4. After review, provide copies and distribute in accordance with Submittal Procedures Article above and for record documents purposes described in Section 01 78 00 "Closeout Submittals".
- O. Product Mockups as Submittals:
1. Where Mock-Up requirements are indicated in individual sections, manage their review similar to Submittals for Review.
 2. Mock-Ups as Submittals: Provide notification to Construction Manager for review by the Architect, for the purpose of conformance with quality requirements and design intent.
 3. Mock-Ups will be reviewed for appearance, sequence of installation, quality of execution, and conformance with design intent as indicated in the Project Documents.
 4. Upon approval, Mock-Ups will remain available on-site or at an agreed location to provide a physical example of appearance, sequence of installation, quality of execution, and conformance with design intent. Installed Work shall meet a comparable standard of quality and attention to detail as established by the Mock-Up.
- P. Submittals for Information:
1. When the following are specified in individual sections, submit them for information:
 - a. Design data.
 - b. Certificates.
 - c. Test reports.
 - d. Inspection reports.
 - e. Manufacturer's instructions.
 - f. Manufacturer's field reports.
 - g. Other types indicated.
- Q. Submittals for Project Closeout
1. When the following are specified in individual sections, submit them at project closeout:
 - a. Project record documents.
 - b. Operation and maintenance data.
 - c. Warranties.
 - d. Bonds.
 - e. Other types as indicated.
 2. Submit for Owner's benefit during and after project completion.

END OF SECTION

DOCUMENT 01 30 00.01 - ELECTRONIC MEDIA AGREEMENT

ELECTRONIC MEDIA AGREEMENT

Contractor and Subcontractor ("Recipient") have requested that the Architect provide to it certain plans, specifications and other documents in electronic form ("Electronic Form Documents"), for this project and the Architects will do so. The Recipient recognizes that Electronic Form Documents are not intended to be used for construction, are not Contract Documents under the terms of the Construction Contract, may be revised by others without the knowledge or consent of the Architect and, when plotted, may result in variances or corrupt other files of the user.

The Recipient agrees that the Electronic Form Documents will only be used for general reference only. The Recipient also agrees not to use the Electronic Form Documents as shop drawings or submittals or for any project other than the Project for which they were prepared.

The Recipient acknowledges that the Electronic Form Documents are the property of the Architect and subject to the copyright of the Architect. The Electronic Form Documents may be write-protected by the Architect such that no data on such disk can be manipulated. The Architect will provide to the Recipient only a working copy of Electronic Form Documents. Said working copy of the Electronic Form Documents shall have all indices of the Architect's ownership, professional name, and/or involvement in the Project removed from the electronic display.

Any use of any kind and/or changes to the Electronic Form Documents will be at the sole risk of the user, and without liability, risk or legal exposure to the Architect. The Recipient and any other person or entity using the Electronic Form Documents agrees to release and, to the fullest extent permitted by law, defend and indemnify the Architect, its consultants, and their partners, shareholders, agents and employees from and against any and all claims, demands, losses, expenses, damages, penalties and liabilities of any kind, including without limitation, attorney's fees, arising out of or relating in any way to any such use of or change to the Electronic Form Documents.

Under no circumstances shall the Architect deem the transfer of the Electronic Form Documents for use of the Recipient a sale, and the Architect makes no warranties, either expressed or implied, of merchantability and fitness for any particular purpose.

The Recipient agrees, as a condition of forwarding the Electronic Form Documents to any other person or entity, to require such third party to agree in writing to the terms and conditions of this Agreement concerning use of the Electronic Form Documents.

Dated this _____ day of _____(month), of _____(year)

_____ (Contractor)

By: _____

SECTION 01 31 13 - PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural instructions for project coordination, including the following:
 - 1. Vapor emission control.
- B. The Contractor shall use their best skill and attention to coordinate all aspects of the Project and plan the Work in advance of execution so as to achieve each of the following objectives listed below. The Owner is responsible to compensate the Contractor neither for costs nor lost time incurred due to Contractor's failure to meet the objectives required for Project Coordination.
 - 1. The Contractor shall anticipate and thereby prevent circumstances that could necessitate the need for alteration of work following execution.
 - 2. Avoid the need for alteration of existing work not documented in the Contract.
 - 3. Avoid alteration of new work once it has been executed.
 - 4. Expedite progress so as to complete the Work within the Contract Time or in advance of scheduled milestones.
 - 5. Prevent conflicts among the various trades engaged in the Work.
- C. When notified by the Owner's representative the Contractor shall provide for the occurrence of work by other prime contractors at the Project site over the course of the Work. Such work may affect site and building access, utilities and other aspects of the Project. Coordinate the Work, and adapt sequence and staging as necessary to accommodate work by other prime contractors and work by the Owner. Periodically during the course of the Work consult the Owner's representative for information on current projects
 - 1. Owner installation of furniture and equipment.
 - 2. Construction in adjacent facilities.
- D. Submittals: General coordination memoranda, drawings, diagrams and schedules, for the coordinated control and utilization of the site, from beginning of construction activity through project close-out and warranty periods
 - 1. Non-standard conditions report; describe condition, location and suggested remedial measures.
 - 2. Coordination Drawings.
- E. Related Requirements.
 - 1. Section 01 10 00 "Summary."
 - 2. Section 01 32 16 "Construction Progress Schedule."
 - 3. Section 01 60 00 "Product Requirements."
 - 4. Section 01 61 16 "Delegated Design Requirements."
 - 5. Section 01 73" 00 "Execution."

6. Section 01 74 19 "Construction Waste Management and Disposal."
7. Section 01 77 00 "Closeout Procedures."
8. Section 01 78 00 "Closeout Submittals."
9. Divisions 04 through 14 Sections which include bidder-designed and/ or delegated design Work.
10. Divisions 21 through 28 Sections.

1.3 CONSTRUCTION ORGANIZATION AND START-UP

- A. Establish on-site lines of authority and communications including the following:
 1. Establish procedures of intra-project communications including:
 - a. Submittals.
 - b. Reports and records.
 - c. Recommendations.
 - d. Coordination Drawings.
 - e. Schedules.
 - f. Resolution of conflicts.
 2. Contract Documents Interpretation:
 - a. Consult with OPR to obtain interpretation.
 - b. Assist in resolution of questions or conflicts which may arise.
 - c. Transmit written interpretations to Subcontractors and to other concerned parties.
 3. Permits and Approvals: Verify that subcontractors have obtained required permits and inspections for work and for temporary facilities.
 4. Control Use of Site:
 - a. Supervise field engineering and project layout.
 - b. Allocate field office space and work and storage areas for use of each subcontractor.
 - c. Schedule, coordinate, and facilitate combined efforts of Engineer of Record and mechanical and electrical subcontractors to achieve Design Assist of mechanical and electrical systems.
 - d. Develop a pre-fire protection plan to be maintained on-site and provided to the building or fire code official upon request.

1.4 REQUIREMENTS FOR BIDDER-DESIGNED WORK

- A. Refer to Section 01 61 16 "Delegated Design Requirements."

1.5 COORDINATING SUBCONTRACTORS' WORK

- A. Coordinate the work of all subcontractors and make certain that, where the work of one trade is dependent upon the work of another trade, the work first installed is properly placed, installed, aligned, and finished as specified or required to properly receive subsequent materials applied or attached thereto.
- B. Direct subcontractors to correct defects in substrates they install when subcontractors of subsequent materials have a reasonable and justifiable objection to such surfaces.

- C. Do not force subcontractors to apply or install product to improperly placed or improperly finished substrates that would result in an unsatisfactory or unacceptable finished product.
 - D. When the work of a subcontractor is critical to the Project schedule, coordinate the reasonable efforts of that subcontractor to ensure adherence to the schedule, including added labor, materials, equipment, tools, construction, equipment, machinery, or other facilities as necessary to accelerate the construction.
 - E. Coordinate the preparation and submission of coordinated layout drawings, prior to construction, to coordinate installation and location of HVAC equipment, ductwork, grilles, diffusers, piping, fire sprinklers, plumbing, lights, and electrical services. Provide composite drawings showing all services on single sheet. Prior to completion of coordination drawings, coordinate proposed installation with architectural and structural requirements, and other trades (including plumbing, fire protection, electrical, ceiling suspension, and tile systems), and comply with maintenance access requirements for all equipment.
 - F. Temporary Construction Barricades: Submit attachment methods for review and approval for all temporary construction and fall protection which occurs at exposed concrete or polished concrete.
 - G. Perform field survey of location and elevation of all cast-in-place slab edges prior to beginning installation of framing.
- 1.6 COORDINATING WORK WITH OWNER'S WORK AND OTHER GENERAL CONTRACTOR'S WORK
- A. Coordinate and make certain that where work of either party is dependent upon the other party, the work first performed is properly placed, installed, aligned, and finished as required to permit the proper installation of the following work.
 - B. If the other work in any way interferes with the General Contractor's work so notify the other party sufficiently in advance so that the other party has reasonable time to make necessary adjustments.
 - C. If the General Contractor's work in any way interferes with the other party's work, so notify the other party as soon as possible. The General Contractor shall modify its schedule as reasonably necessary to accommodate the other party's work.
 - D. General Contractor recognizes that Owner is entitled under the Contract Documents, to perform work on site during the course of General Contractor's performance, whether via Owner's forces, consultants, or separate Contractors.
- 1.7 COORDINATION DRAWINGS
- A. The contractor shall provide for participation by representatives of each of the trades or entities involved in the execution of work to be documented by the coordination drawings, who shall be knowledgeable of all the requirements for the Work and fully authorized to act on behalf of the entity or firm they represent. The purpose of this coordination effort shall be to provide a comprehensive, building information model (BIM) using approved software tools to coordinate all systems required for the Work developed in concert with the input of these representatives, and identify and eliminate conflicts among systems as required in advance of execution of the work.
 - 1. Provide a highly skilled CAD operator to assist all parties in the development of the coordination drawings, and in the review and understanding of them; including assistance to the OAR, and the Owner's consultants.
 - 2. Drawings shall use color coding, layering and other appropriate conventions to show discretely the components of each system, highlight conflicts, document the resolution of them, and limn the integration of all systems in the building free from conflicts.

- a. Scale: Comply with Shop Drawing requirements; use the same or larger drawing scale as used in the Contract Documents for the information and level of detail to be conveyed.
3. As necessary to comply with the intent of the coordination effort and when directed the Construction Manager shall require the participation of any lower tier contractor and any vendor in the coordination effort at no additional cost to the Owner. Without limitation on this requirement the following lower tier contractors may be required to be included.
 - a. Plumbing/HVAC wet side, HVAC dry side, Fire Protection, Electrical, telecommunications, security, equipment suppliers and others as necessary to insure proper clearances, penetrations and dimensional coordination for all building systems.
 - b. Glazier, sheet metal trades and others responsible for construction of the exterior building envelope as necessary to ensure integrated, weather-resistant assembly.
4. Coordination meetings shall be held at regularly scheduled intervals appropriate to the status of the Work and sufficiently in advance of execution to avoid the need for modifications to work already in place and prevent any delay in progress.
- B. Coordination of Work Sequence and Quality Assurance and Commissioning Activities: Schedule to provide timely evaluation of the Work and identify defects and deficiencies at the earliest time possible. Facilitate corrective and remedial action to avoid delay in the progress of the Work.
- C. Review drawings prior to submission to OPR.

PART 2 - PRODUCTS

-NOT USED -

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor shall notify OPR of conditions created and uncovered during the Work that may complicate completion of subsequent work. Such conditions include but are not limited to substrate profile, coatings, integrity, voids and protrusions and other conditions. Report non-standard and potentially problematic conditions in writing, and suggest remedial measures.
- B. Contractor: Responsible for knowing the general character of each item of new work to be installed in areas where Work is performed, and understand the standard conditions and substrate characteristics for proper installation of the new work.
 1. Utilize coordination drawings and field verification of dimensions and measurements to ensure mechanical, plumbing, electrical and other building systems and equipment are coordinated with building structure and architectural features. Verify physical dimensions of equipment with the space available and ensure necessary clearances exist for execution, operation and maintenance.
 2. Manufacturer's Instructions: Where new work will include manufactured products, inspect manufacturer's instructions and recommendations for installation. Provide conditions complying with the manufacturer's recommendations.

3.2 VAPOR EMISSION CONTROL

- A. It shall be the responsibility of the Contractor to achieve acceptable substrate conditions at concrete floors (elevated, on-grade and topping slabs) throughout the Project conforming to limits established by the Contract Documents for moisture emission and alkalinity measured as pH. The Contractor shall consider all factors of the Work that may affect the acceptability of

concrete substrates for finish flooring installation, determine the means, and methods that will effectively control conditions and established the conditions needed within the requirements of the Contract Schedule and provide all means, methods to maintain the Contract Schedule and prevent delay to flooring installation and the overall progress of the Work at no additional cost to the Owner.

1. Contractor's Vapor Emission Control Plan: Provide a concise summary of all measures to be provided and supplementary corrective measures where acceptable conditions have not been obtained. Plan shall include a schedule that is coordinated with the Contract Schedule and indicate each required step from initial concrete placement through moisture and pH testing and finish floor installation for each type of finish floor required except for areas where Portland cement concrete is the finish floor.
2. In addition to Contractor's means, methods, and schedule for vapor emission control measures the Plan shall provide for coordination of the concreting work with subsequent finish flooring work including but not limited to concrete mix design, placement and cure; finish flooring products and associated vapor emission and pH level requirement; measures to establish a controlled environment where temperature and relative humidity are regulated.

END OF SECTION

SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Preliminary schedule.
 - 2. Construction progress schedule, bar chart type.

1.3 SUBMITTALS

- A. Within 10 days after date of Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.

1.4 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one (1) year minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.5 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Sheet Size: Multiples of 8-1/2 x 11 inches.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

3.1 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.2 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.

- C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
 - D. Indicate delivery dates for owner-furnished products.
 - E. Provide legend for symbols and abbreviations used.
- 3.3 BAR CHARTS
- A. Include a separate bar for each major portion of Work or operation.
 - B. Identify the first work day of each week.
- 3.4 REVIEW AND EVALUATION OF SCHEDULE
- A. Participate in joint review and evaluation of schedule with OPR at each submittal.
 - B. Evaluate project status to determine work behind schedule and work ahead of schedule.
 - C. After review, revise as necessary as result of review, and resubmit within 10 days.
- 3.5 UPDATING SCHEDULE
- A. Maintain schedules to record actual start and finish dates of completed activities.
 - B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
 - C. Annotate diagrams to graphically depict current status of Work.
 - D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
 - E. Indicate changes required to maintain Date of Substantial Completion.
 - F. Submit reports required to support recommended changes.
- 3.6 DISTRIBUTION OF SCHEDULE
- A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Architect/ Engineer, Owner, and other concerned parties.
 - B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 01 33 31 - SUSTAINABILITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general sustainability requirements.
- B. Related Requirements:
 - 1. Sections containing materials either field applied or materials that off-gas or emit within the interior envelope of the Project.

1.3 DEFINITIONS

- A. Low-emitting materials: Materials and products used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site):
 - 1. Adhesive, sealants and sealant primers which do not exceed the volatile organic content (VOC) limits defined by the current version of South Coast Air Quality Management District (SCAQMD) Rule 1168.
 - 2. Architectural paints and coatings which do not exceed the volatile organic content (VOC) limits established in Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993.
 - 3. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates which do not exceed the volatile organic content (VOC) limit of 250 g/L (2 lb/gal) established in Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd Edition, January 7, 1997.
 - 4. Clear wood finishes, floor coatings, stains, primers, sealers, and shellacs which do not exceed the volatile organic content (VOC) limits established in South Coast Quality Management District (SCAQMD) Rule 1113, Architectural Coatings rules in effect on January 1, 2004.
 - 5. Carpets which meets the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program.
 - 6. Carpet cushions which meet the requirements of the Carpet and Rug Institute's Green Label program.
 - 7. Flooring elements which meet the testing and product requirements of the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

1.4 QUALIFICATIONS

- A. The Contractor shall include managers and staff on the Project who are knowledgeable of sustainability and sustainable construction practices.

PART 2 - PRODUCTS

2.1 LOW-EMITTING MATERIALS

- A. For field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Wood Glues: 30 g/L.
 2. Metal to Metal Adhesives: 30 g/L.
 3. Adhesives for Porous Materials (Except Wood): 50 g/L.
 4. Subfloor Adhesives: 50 g/L.
 5. Plastic Foam Adhesives: 50 g/L.
 6. Carpet Adhesives: 50 g/L.
 7. Carpet Pad Adhesives: 50 g/L.
 8. VCT and Asphalt Tile Adhesives: 50 g/L.
 9. Cove Base Adhesives: 50 g/L.
 10. Gypsum Board and Panel Adhesives: 50 g/L.
 11. Rubber Floor Adhesives: 60 g/L.
 12. Ceramic Tile Adhesives: 65 g/L.
 13. Multipurpose Construction Adhesives: 70 g/L.
 14. Fiberglass Adhesives: 80 g/L.
 15. Contact Adhesive: 80 g/L.
 16. Structural Glazing Adhesives: 100 g/L.
 17. Wood Flooring Adhesive: 100 g/L.
 18. Structural Wood Member Adhesive: 140 g/L.
 19. Special Purpose Contact Adhesive (contact adhesive that is used to bond melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber or wood veneer 1/16 inch or less in thickness to any surface): 250 g/L.
 20. Top and Trim Adhesive: 250 g/L.
 21. Plastic Cement Welding Compounds: 350 g/L.
 22. ABS Welding Compounds: 400 g/L.
 23. CPVC Welding Compounds: 490 g/L.
 24. PVC Welding Compounds: 510 g/L.
 25. Adhesive Primer for Plastic: 650 g/L.
 26. Sheet Applied Rubber Lining Adhesive: 850 g/L.
 27. Aerosol Adhesive, General Purpose Mist Spray: 65 percent by weight.
 28. Aerosol Adhesive, General Purpose Web Spray: 55 percent by weight.
 29. Special Purpose Aerosol Adhesive (All Types): 70 percent by weight.
 30. Other Adhesives: 250 g/L.

31. Architectural Sealants: 250 g/L.
 32. Nonmembrane Roof Sealants: 300 g/L.
 33. Single-Ply Roof Membrane Sealants: 450 g/L.
 34. Other Sealants: 420 g/L.
 35. Sealant Primers for Nonporous Substrates: 250 g/L.
 36. Sealant Primers for Porous Substrates: 775 g/L.
 37. Modified Bituminous Sealant Primers: 500 g/L.
 38. Other Sealant Primers: 750 g/L.
- B. For field applications that are inside the weatherproofing system, use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions:
1. Flat Paints, Coatings, and Primers: VOC not more than 50 g/L.
 2. Nonflat Paints, Coatings, and Primers: VOC not more than 150 g/L.
 3. Anticorrosive and Antirust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
 4. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
 5. Clear Wood Finishes, Lacquers: VOC not more than 550 g/L.
 6. Floor Coatings: VOC not more than 100 g/L.
 7. Shellacs, Clear: VOC not more than 730 g/L.
 8. Shellacs, Pigmented: VOC not more than 550 g/L.
 9. Stains: VOC not more than 250 g/L.
 10. Flat Interior Topcoat Paints: VOC not more than 50 g/L.
 11. Nonflat Interior Topcoat Paints: VOC not more than 150 g/L.
 12. Anticorrosive and Antirust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
 13. Clear Wood Finishes, Varnishes and Sanding Sealers: VOC not more than 350 g/L.
 14. Clear Wood Finishes, Lacquers: VOC not more than 550 g/L.
 15. Floor Coatings: VOC not more than 100 g/L.
 16. Shellacs, Clear: VOC not more than 730 g/L.
 17. Shellacs, Pigmented: VOC not more than 550 g/L.
 18. Stains: VOC not more than 250 g/L.
 19. Primers, Sealers, and Undercoaters: VOC not more than 200 g/L.
 20. Dry-Fog Coatings: VOC not more than 400 g/L.
 21. Zinc-Rich Industrial Maintenance Primers: VOC not more than 340 g/L.
 22. Pretreatment Wash Primers: VOC not more than 420 g/L.
 23. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
 24. Restricted Components: Paints and coatings shall not contain any of the following:
 - a. Acrolein.

- b. Acrylonitrile.
 - c. Antimony.
 - d. Benzene.
 - e. Butyl benzyl phthalate.
 - f. Cadmium.
 - g. Di (2-ethylhexyl) phthalate.
 - h. Di-n-butyl phthalate.
 - i. Di-n-octyl phthalate.
 - j. 1,2-dichlorobenzene.
 - k. Diethyl phthalate.
 - l. Dimethyl phthalate.
 - m. Ethylbenzene.
 - n. Formaldehyde.
 - o. Hexavalent chromium.
 - p. Isophorone.
 - q. Lead.
 - r. Mercury.
 - s. Methyl ethyl ketone.
 - t. Methyl isobutyl ketone.
 - u. Methylene chloride.
 - v. Naphthalene.
 - w. Toluene (methylbenzene).
 - x. 1,1,1-trichloroethane.
 - y. Vinyl chloride.
- C. Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

PART 3 - EXECUTION

3.1 REFRIGERANT AND CLEAN-AGENT FIRE-EXTINGUISHING-AGENT REMOVAL

- A. Remove CFC-based refrigerants from existing HVAC&R equipment indicated to remain and replace with refrigerants that are not CFC based. Replace or adjust existing equipment to accommodate new refrigerant as described in Division 23 Sections.
- B. Remove clean-agent fire-extinguishing agents that contain HCFCs or halons and replace with agent that does not contain HCFCs or halons.

3.2 CONSTRUCTION WASTE MANAGEMENT

- A. Comply with Section 01 74 19 "Construction Waste Management and Disposal".

3.3 CONSTRUCTION INDOOR-AIR-QUALITY MANAGEMENT

- A. Comply with Section 01 57 22 "Construction Indoor Air Quality".

1. If BCAD authorizes use of permanent heating, cooling, and ventilating systems during construction period as specified in Section 01 50 00 "Temporary Facilities and Controls," install filter media having a MERV 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
 2. Replace all air filters immediately prior to occupancy.
- B. Air-Quality Testing:
1. Conduct baseline indoor-air-quality testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air".
 2. Demonstrate that the contaminant maximum concentrations listed below are not exceeded:
 - a. Formaldehyde: 50 ppb.
 - b. Particulates (PM10): 50 micrograms/cu. m.
 - c. Total Volatile Organic Compounds (TVOC): 500 micrograms/cu. m.
 - d. 4-Phenylcyclohexene (4-PH): 6.5 micrograms/cu. m.
 - e. Carbon Monoxide: 9 ppm and no greater than 2 ppm above outdoor levels.
 3. For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting noncomplying building areas, take samples from same locations as in the first test.
 4. Air-sample testing shall be conducted as follows:
 - a. All measurements shall be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing.
 - b. Building shall have all interior finishes installed including, but not limited to, millwork, doors, paint, carpet, and acoustic tiles. Nonfixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for the testing.
 - c. Number of sampling locations will vary depending on the size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq. ft. (2300 m²) or for each contiguous floor area, whichever is larger, and shall include areas with the least ventilation and greatest presumed source strength.
 - d. Air samples shall be collected between 3 and 6 feet (0.9 and 1.8 m) from the floor to represent the breathing zone of occupants, and over a minimum four-hour period.

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Quality assurance submittals.
2. Mock-ups.
3. Pre-installation meetings.
4. Control of installation.
5. Tolerances.
6. Testing and inspection services.
7. Manufacturers' field services.

B. Related Requirements:

1. Section 01 30 00 "Administrative Requirements": Submittal procedures.
2. Section 01 42 19 "Reference Standards."
3. Section 01 60 00 "Product Requirements": Requirements for material and product quality.

1.3 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified or indicated, and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to OPR for direction before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to OPR for a decision before proceeding.

1.4 SUBMITTALS

A. Testing Agency Qualifications:

1. Submit documentation to demonstrate capabilities and experience for testing agencies specified in "Quality Assurance" Article. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

- B. Design Data: As requested by OPR, submit design data for the purpose of assessing conformance with information given and the design concept expressed in the contract documents.

- C. Delegated Design: Refer to Section 01 61 16 "Delegated Design Requirements".

- D. Test Reports: After each test/inspection, promptly submit two copies of report to OPR and to Contractor.
 - E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to OPR, in quantities specified for Product Data.
 - 1. Indicate material or product conforms to 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 OPR.
 - F. 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.
 - G. Manufacturer's Field Reports: Submit reports to OPR.
 - 1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
 - H. Erection Drawings: Submit drawings to OPR.
 - 1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- 1.5 REFERENCES AND STANDARDS - See Section 01 42 19 "Reference Standards."
- 1.6 TESTING AND INSPECTION AGENCIES
- A. Owner may employ services of an independent testing agency to perform specified testing. Owner shall contract and pay for testing services from an independent agency to perform testing specified.
 - B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

3.1 PRE-INSTALLATION MEETING

- A. Contractor shall schedule pre-installation meeting for products where requirements are indicated.
- B. Attendance Required:
 - 1. Owner's Representative.
 - 2. Contractor.
 - 3. Subcontractor.
- C. Agenda:
 - 1. Review existing and as-built conditions.
 - 2. Review installation procedures.

3. Confirm coordination requirements

- D. Contractor shall record minutes and distribute copies within two days after meeting to participants, with two copies to Owner, Architect, other meeting participants, and those affected by decisions made.

3.2 PREPARATION

- A. General: Before starting each portion of the Work, carefully review the Construction Documents pertaining to that portion of the Work, take field measurements of any existing conditions effecting the Work, and observe any other conditions at the site affecting the Work. The review of documents, of existing and site conditions is to facilitate coordination. Any errors, inconsistencies or omissions discovered by or made known as a request for information, and in review of conditions and Contract Documents, shall be reported to the Architect for clarification. Proceeding with Work without clarification of known discrepancies shall be at the sole cost and responsibility of the Contractor where additional work is required.

3.3 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.

3.4 MOCK-UPS

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, remove mock-up and clear area when directed to do so.

3.5 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 Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.6 COORDINATION OF COMPATIBILITY

- A. Compatibility Letter and Chart: In order to ensure the compatibility of various interfaced products in the Project, it shall be the responsibility of the General Contractor to coordinate the provision of the following submittals:
1. Provision by the subcontractors of compatibility letters certifying physical and chemical compatibility of products in this section with all other dampproofing, waterproofing, weather barrier, roofing, self-adhered flashing and sealant products in the Project. Coordinate with the following Sections:
 - a. Section 07 11 13 "Bituminous Dampproofing".
 - b. Section 07 14 13 "Hot Fluid-Applied Rubberized Asphalt Waterproofing".
 - c. Section 07 14 16 "Cold Fluid-Applied Waterproofing".
 - d. Section 07 17 00 "Bentonite Waterproofing".
 - e. Section 07 25 00 "Weather Barriers".
 - f. Section 07 52 16 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing".
 - g. Section 07 53 23 "Ethylene-Propylene-Diene-Monomer (EPDM) Roofing".
 - h. Section 07 54 23 "Thermoplastic Polyolefin (TPO) Roofing".
 - i. Section 07 62 00 "Sheet Metal Flashing and Trim".
 - j. Section 07 92 00 "Joint Sealants".
 2. Compatibility Chart to be compiled by the General Contractor based on input from the subcontractors providing Compatibility Letters. Compatibility Chart shall indicate:
 - a. All dampproofing, waterproofing, weather barrier, roofing, self-adhered flashing and sealant products.
 - b. Which other products all the products interface (are in contact with) in the Project.
 - c. The physical compatibility between those interfaced products.
 - d. The chemical compatibility between those interfaced products.

3.7 TESTING AND INSPECTION

- A. Testing Agency Duties:
1. Provide qualified personnel at site. Cooperate with OPR 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 OPR and Contractor of observed irregularities or non-conformance of Work or products.
 5. Perform additional tests and inspections required by OPR.
 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 which 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 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-conformance to specified requirements shall be performed by the same agency on instructions by Architect.
- E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.
- F. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by OPR. Payment for re testing will be charged to the Contractor by deducting testing charges from the Contract Price.
- 3.8 MANUFACTURERS' FIELD SERVICES
- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
 - B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- 3.9 DEFECT ASSESSMENT
- A. Replace Work or portions of the Work not conforming to specified requirements.
 - B. If, in the opinion of OPR, it is not practical to remove and replace the Work, OPR will direct an appropriate remedy.

END OF SECTION

SECTION 01 42 19 - REFERENCE STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes referenced standards.

1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Should specified reference standards conflict with Contract Documents, request clarification from the OPR or OPM before proceeding.
- C. Neither the contractual relationships, duties, or responsibilities of the parties in Contract shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

1.4 ORGANIZATION AND AGENCY ABBREVIATIONS AND ACRONYMS

- A. Refer to specification sections for applicable abbreviations and acronyms for industry organizations and federal, state and local agency requirements, standards and regulatory organizations.
- B. Construction Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- C. United States Government and Related Agencies Abbreviations: Where occurs; see individual sections.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

- Not Used -

END OF SECTION

SECTION 01 45 17 - ACCESSIBILITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general requirements and procedures for compliance with Federal Regulation guidelines and applicable State and local Codes.
- B. Related Requirements:
 - 1. Sections 06 40 00 "Architectural Woodwork" for clearances, heights and reach.
 - 2. Section 08 71 00 "Door Hardware" for heights and operation.
 - 3. Section 10 28 00 "Toilet, Bath and Laundry Accessories."

1.3 REGULATORY REQUIREMENTS

- A. Comply with applicable provisions in the Oregon Structural Specialty Code (2014) and the References cited in this Section, including the following:
 - 1. American National Standard Institute and International Code Council (ICC):
 - a. ICC A117.1 - Standard for Accessible and Usable Buildings and Facilities
 - 2. Fair Housing Act (Sec. 801. [42 U.S.C. 3601].
 - 3. Section 504, Rehabilitation Act of 1973.
 - 4. U.S. Architectural & Transportation Barriers Compliance Board:
 - a. ADA-ABA Accessibility Guidelines for Buildings and Facilities
 - 5. U.S. Department of Justice and United States Access Board:
 - a. ADA Accessibility Guidelines (ADAAG).
 - b. ADA Standards for Accessible Design (2010).
 - c. Uniform Federal Accessibility Standards (UFAS).

1.4 DEFINITIONS

- A. General: Definitions here relate to accessibility issues, and do not replace nor supersede similar definitions elsewhere in the documents pertaining to other issues.
- B. Maximum (max.):
 - 1. Distance or Dimension: The largest measure of distance or largest dimension allowable; shall account for all construction tolerances of various trades involved; shall account for additions or reductions in distance or dimension due to finish materials.
 - 2. Force: The largest measure of or force allowable.
- C. Minimum (min.):
 - 1. Distance or Dimension: The least measure of distance or least dimension allowable; shall account for all construction tolerances of various trades involved; shall account for additions or reductions in distance or dimension due to finish materials.

- D. On-Center (o.c.): Equidistant measure from the centerline or midpoint of a fixture to that of the next similar fixture.
- E. Centerline: Line that bisects a fixture or piece of equipment, about which the distance or dimension to adjacent surfaces is equidistant.

1.5 SUBMITTALS

- A. Refer to requirements of Sections indicated in this section.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Installers of fixtures and equipment with accessibility requirements shall be familiar with the guidelines and Code requirements in effect within the jurisdiction the Project is located in, and shall be experienced in coordination with other trades providing adjacent work and finishes to ensure awareness of tolerances required and compliance with guidelines and Code requirements.
- B. Reviewer Qualifications: Qualified agency shall be familiar with the guidelines and Code requirements in effect within the jurisdiction the Project is located in. The agency shall be experienced in coordination requirements of trades providing adjacent work and finishes. The agency shall be familiar with the tolerances required of adjacent work for compliance with guidelines and Code requirements.

PART 2 - PRODUCTS

2.1 SIGNAGE

- A. Related Requirements: Coordinate requirements with the following Sections:
 - 1. Section 10 14 00 "Signage."
- B. Schedule of Accessibility Signage:
 - 1. "Reserved Accessible Parking" sign:
 - a. State Regulation: 1106.7.2.
 - b. Federal Regulation: 502.6, 703.7.2.1.
 - 2. "Van Accessible Parking " sign:
 - a. State Regulation: 1106.5
 - b. Federal Regulation: 208.2.4, 502.6
 - 3. Exit Signage:
 - a. Tactile and Braille EXIT signs are to be provided at the emergency exits.
 - b. Federal Regulation: 703.4.1

PART 3 - EXECUTION

3.1 GENERAL

- A. Responsibility: It is the responsibility of trades involved in work at all elements and fixtures for which accessibility guidelines and Code regulations are required to coordinate for the proper positioning and location to meet accessibility requirements.
- B. Requirements below are provided for the provision and installation of building and site elements for which accessibility requirements are often compromised by dimensional inconsistencies and mis-location due to thickness and dimensional tolerances of adjacent finishes.

3.2 SITE ELEMENTS

- A. Related Requirements: Coordinate site elements requirements with the following Sections:
 - 1. Section 03 30 00 "Cast-in-Place Concrete."
- B. Schedule of Accessibility Site Elements:
 - 1. Curb Ramp, Exterior:
 - a. State Regulation: ANSI 406.13.
 - 2. Walkway, Exterior
 - a. Cross slope of paved paths shall be 2.0 percent maximum slope.
 - b. Federal Regulation: 403.3.

3.3 BUILDING ELEMENTS

- A. Related Requirements: Coordinate building elements requirements with the following Sections:
 - 1. Section 06 41 13 "Architectural Cabinets."
 - 2. Section 08 71 00 "Door Hardware."
- B. Schedule of Accessibility Building Elements:
 - 1. Door Closer:
 - a. Door Closer Sweep Time: 5 seconds minimum.
 - b. Door Opening Force: 5 lbs maximum.
 - c. State Regulation: 1101.2.2.5.
 - d. Federal Regulation: 404.2.8.1, 404.2.9.
 - 2. Panic Door Hardware:
 - a. Operational Force: 5 lbs maximum.
 - b. Federal Regulation: 309.4.
 - 3. Countertops.
 - a. Federal Regulation: 904.4.1.
 - 4. Electrical Devices:
 - a. Federal Regulation: 308.3, 308.3.1.
 - 5. Door Handles:
 - a. Single-User (Unisex) Restroom Compartment Doors: doors in single-user rooms shall be provided with handles on both sides of the door.
 - b. Federal Regulation: 604.8.1.2.
 - 6. Grab Bars:
 - a. Federal Regulation: 609.4.
 - 7. Dispensers:
 - a. Federal Regulation: 604.7.
 - b. Federal Regulation: 604.5.2, 609.3.
 - 8. Toilet Stall Partitions:
 - a. Federal Regulation: 604.3.1.

- 9. Urinals:
 - a. Federal Regulation: 605.2.
 - 10. Multiple User Restrooms:
 - a. Lavatories:
 - 1) Federal Regulation: 306.3, 306.3.3, 606.3.
 - b. Toilets:
 - 1) Federal Regulation: 604.4.
 - 11. Kitchens, Kitchenettes and Coffee/ Break Areas:
 - a. Federal Regulation: 804.3.2.
 - 12. Accessible Seating:
 - a. Accessible seating shall be provided for at least 5 percent of seating or standing spaces; there shall be no less than one accessible seat provided.
 - b. State Regulation: 1108.2.9.1.
 - 13. Drinking Fountains
 - a. Provide as a minimum the number of drinking fountains required by the regulations:
 - 1) Federal Regulation: 211.2, 601.2 - 602.7.
 - b. Provide a high and low fountain at each location.
 - 1) Federal Regulation: 211.2, 601.2 - 602.7.
- 3.4 PATH OF TRAVEL
- 1. Common Path: Provide minimum clearances.
 - a. State: 307.2.
 - b. Federal: 307.
 - 2. Urinal Path:
 - a. Federal Regulation: 403.5.2.
- 3.5 MEASUREMENT AND VERIFICATION
- A. Contractor shall provide oversight and to perform measurements and inspections of fixtures and equipment installed for assurance of compliance with guidelines and Code requirements prior to inspection by the Jurisdiction.

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Temporary telephone service.
 - 2. Temporary sanitary facilities.
 - 3. Temporary Controls: Barriers, enclosures, and fencing.
 - 4. Security requirements.
 - 5. Vehicular access and parking.
 - 6. Waste removal facilities and services.
 - 7. Project identification sign.
 - 8. Field offices.

1.3 COMMUNICATIONS SERVICES

- A. Provide, maintain and pay for cellular and land-line telephone services, internet service and facsimile service to field office at time of project mobilization.

1.4 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.

1.5 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.6 FENCING

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

1.7 EXTERIOR ENCLOSURES

- A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

- B. Provide temporary weather tight enclosures for site storage of weather-sensitive products and items. Enclosures shall accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access openings with locks.
- 1.8 SECURITY
- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft. Scope of required security measures to be determined by Owner and Contractor during bidding.
- 1.9 VEHICULAR ACCESS AND PARKING
- A. Coordinate access and haul routes with governing authorities and Owner.
 - B. Provide and maintain access to fire hydrants, free of obstructions.
 - C. Provide means of removing mud from vehicle wheels before entering streets.
 - D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- 1.10 WASTE REMOVAL
- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
 - B. Provide containers with lids. Remove trash from site periodically.
 - C. 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.
 - D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.
- 1.11 PROJECT IDENTIFICATION
- A. Provide Project identification signage as indicated.
 - 1. Refer to the Drawings for design and construction of Project identification signage.
 - 2. Include Project firms' names, addresses, and logos, including: Owner, Owner's Project Representative/ Project Manager, Architect, prime Engineers, and General Contractor.
 - 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 Field Offices a within or nearby the Project site.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

- Not Used -

END OF SECTION

SECTION 01 57 22 - CONSTRUCTION INDOOR AIR QUALITY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section describes Construction Indoor Air Quality (IAQ) goals and includes administrative and procedural requirements for the development and execution of a construction air quality management plan.
- B. Related Requirements:
 - 1. Division 1 Section "Submittal Procedures" for required submittal procedures.
 - 2. Division 1 Section "Temporary Facilities and Controls" requirements for installation, maintenance and removal of temporary utilities, controls, and facilities during construction.
 - 3. Division 1 Section "Product Requirements" procedures for storage of interior materials to prevent exposure to moisture and pollutants.
 - 4. Division 23 "HVAC" section "Basic Mechanical Materials and Methods" for duct cleaning procedures.

1.3 INDOOR AIR QUALITY MANAGEMENT

- A. The Owner has established that the contractor shall prevent indoor air quality problems resulting from the construction process, to sustain long term installer and occupant health and comfort.
- B. Protect the ventilation system components during construction and clean contaminated components after construction is complete.
- C. Control sources of potential IAQ pollutants by controlling selection of materials and processes used in project construction.

1.4 CONSTRUCTION AIR QUALITY MANAGEMENT PLAN

- A. Develop a Draft Indoor Air Quality (IAQ) Management Plan for the construction.
 - 1. Protect stored on-site or installed absorptive materials from moisture damage.
- B. The SMACNA IAQ Guidelines for Occupied Buildings under Construction provides an overview of air pollution associated with construction, control measures, construction process management, quality control, communicating with occupants, and case studies. These guidelines can be accessed at www.smacna.org. Chapter 3 of the SMACNA Guidelines recommends Control Measures in five areas: HVAC protection, source control, pathway interruption, housekeeping, and scheduling. Review the applicability of each Control Measure and include those that apply in the Draft IAQ Management Plan.
 - 1. HVAC Protection: Shut down the return side of the HVAC system whenever possible during heavy construction. If the system must remain operational during construction include the following strategies that apply:
 - a. Fit the return side of the HVAC system with temporary filters with a Minimum Efficiency Reporting Value (MERV) of 8.

- b. Isolate the return side of the HVAC system from the surrounding environment as much as possible (e.g., place all tiles for the ceiling plenum, repair all ducts and air handler leaks).
 - c. Damper off the return system in the heaviest work areas and seal the return system openings with plastic.
 - d. Upgrade the filter efficiency where major loading is expected to affect operating HVAC system.
 - e. Clean permanent return air ductwork per National Air Duct Cleaning Association standards upon completion of all construction and finish installation work.
 - f. Replace all filtration media prior to occupancy.
2. Source Control: Propose the substitution of non-toxic formulations of materials that are generally the responsibility of the contractor such as caulks, sealants, and cleaning products.
 3. Pathway Interruption: Prevent contamination of clean spaces. Include the following strategies that apply:
 - a. Use 100% outside air ventilation (when outside temperatures are between 55 degrees F and 85 degrees F and humidity is between 30% and 60%) with air exhausted directly to the outside during installation of finishes and other VOC emitting materials.
 - b. Erect some type of barrier between work areas or between the inside and outside of the building to prevent unwanted airflow from dirty to clean areas.
 4. Housekeeping: Reduce construction contamination in the building prior to occupancy through HVAC and regular space cleaning activities.
 - a. Store building materials in a weather tight, clean area prior to unpacking for installation.
 - b. Check for possible damage to building materials from high humidity.
 - c. Clean all coils, air filters, and fans before testing and balancing procedures are performed.
 5. Scheduling: Specify construction sequencing to reduce absorption of VOC's by materials that act as sinks or contaminant sources. Complete application of wet and odor-emitting materials such as paints, sealants, and coatings before installing sink materials such as ceiling tiles, carpets, insulation, gypsum products, and fabric-covered furnishings are installed.
 - a. Protect stored on-site or installed absorptive materials from exposure to moisture through precipitation, plumbing leaks, or condensation from the HVAC system to prevent microbial contamination.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

- Not Used -

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. General product requirements.
 - 2. Transportation, handling, storage and protection.
 - 3. Product option requirements.
 - 4. Procedures for Owner-supplied products.
 - 5. Spare parts and maintenance materials.
- B. Related Requirements:
 - 1. Section 01 25 00 "Product Substitution Requirements".
 - 2. Section 01 40 00 "Quality Requirements": Product quality monitoring.

1.3 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.

1.4 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

1.5 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

PART 2 - PRODUCTS

2.1 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. Basis-of-Design Product Specification Submittal: Show compliance with requirements.
 - 1. The named Basis-of-Design Product's performance criteria, product properties and attributes, including materials and methods used in fabrication of and/or the manufacturing process of individual components or for entire system, as indicated in manufacturers' current published product literature at the date of the Contract Documents, shall establish the minimum performance requirement for the Project, regardless of inclusion in the specification.
 - 2. All products are basis-of-design regardless of basis-of-design inclusion.
- C. Do not use products having any of the following characteristics:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Made of wood from newly cut old growth timber.
- D. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. Result in less construction waste.
 - 2. Have higher percentage of recycled content.
 - 3. Are manufactured and/or extracted from within 500 miles of jobsite.
 - 4. Wood that is sustainably harvested.

2.2 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.
- 2.3 SPARE PARTS AND MAINTENANCE PRODUCTS
 - A. Provide spare parts, maintenance, and extra products of types and in quantities specified in individual specification sections.
 - B. Deliver to Project site; obtain receipt prior to final payment.
- 2.4 SUBSTITUTION PROCEDURES
 - A. Refer to Section 01 25 00 "Product Substitution Procedures."

PART 3 - EXECUTION

--Not Used--

END OF SECTION

SECTION 01 61 16 - DELEGATED DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. General: This Section specifies administrative and procedural requirements for delegated design indicated in the various Sections of these Specifications.
- B. Section Includes: Structural and other design requirements for delegated design components, otherwise known as fabricator-designed, bidder-designed or bidder design-build components.
- C. This Section applies to Technical Specification Sections, and supplements requirements indicated in the General and Supplementary Conditions.
- D. Delegated design does not mean deferred submittal. See Drawings for deferred submittals.
- E. Related Requirements: Refer to sections indicated for specific delegated design requirements, including, but not limited to the following:
 - 1. Section 08 80 00 "Glazing."
 - 2. Section 09 51 00 "Acoustical Ceilings".
 - 3. Division 21 "Fire suppression" Sections for delegated design fire suppression.
 - 4. Division 22 Sections "Hangers, Supports, and Anchors for Plumbing" and "Vibration and Seismic Controls for Plumbing Piping and Equipment" for delegated design Seismic bracing for Plumbing equipment.
 - 5. Division 23 Sections "Hangers, Supports, and Anchors for HVAC" and "Vibration and Seismic Controls for HVAC Piping and Equipment" for delegated design Seismic bracing for MEP equipment.
 - 6. Division 28 "Electrical Safety and Security" Sections for delegated design fire alarm system

1.2 DEFINITIONS

- A. Contractor Design Requirements: Where occurs, same meaning as Delegated Design Requirements.
- B. Delegated Design Work: Design services and certifications provided by a Professional Engineer registered as such in the State where the Project is located related to systems, materials or equipment required for the Work to satisfy design and performance criteria established by the Contract Documents. Delegated Design does not include professional services the Contractor needs to fulfill their responsibilities under the Contract including but not limited to construction means, methods and sequence.
- C. Seal: Certification that builder design plans, computations and specifications were designed and prepared under the direct supervision of the Architect or Engineer whose name appears thereon.
- D. Approval Stamp: Certification obtained by the Contractor that the Building Official has reviewed a submittal, and finds it acceptable with respect to applicable regulatory requirements.
- E. Bidder-Design: Design services provided by an installer or manufacturer complying with quality assurance, performance requirements and design requirements indicated and established by the Contract Documents. Bidder-design does not include Professional Engineering unless indicated otherwise.

1.3 DELEGATED- AND BIDDER-DESIGN SERVICES

- A. Where referenced in these specifications, Delegated Design components and their attachments to the structure shall comply with the currently adopted edition of all applicable state and local ordinances, with parameters as specified in this individual sections.
- B. Where referenced in these specifications, Bidder-Design components and installation shall comply with the currently adopted edition of all applicable state and local ordinances, with parameters specified in this and individual sections.
- C. Permitting Agency Requirements: Follow the requirements for permits current at the time of submission. The General Contractor is responsible to coordinate and submit all material required, so the permitting agency's review will not adversely affect the construction schedule. At or near time of application, the General Contractor shall meet with the permitting agency to identify Delegated Design components and how they are to be submitted and processed for permits.
- D. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1.4 SUBMITTALS

- A. General: Submit complete Delegated Design Submittals to meet permitting agency requirements for permits. Include drawings and calculations for that portion of the Work signed and sealed by a State of Oregon registered engineer. Incomplete submittals or submittals not previously reviewed and so stamped by General Contractor will not be accepted for review by the Architect or Engineer of Record.
- B. These submittal requirements are in addition to other submittal requirements stated elsewhere in the contract documents.

1.5 QUALITY ASSURANCE

- A. Where referenced in these specifications, Delegated Design components and their attachments to the structure shall comply with the currently adopted edition of all applicable state and local ordinances, with parameters as specified in this section.
- B. Permitting Agency Requirements: Follow the requirements for permits current at the time of submission. The General Contractor is responsible to coordinate and submit all material required, so the permitting agency's review will not adversely affect the construction schedule. At or near time of application, the General Contractor shall meet with the permitting agency to identify Delegated Design components and how they are to be submitted and processed for permits.

1.6 INSURANCES

- A. Refer to General Conditions for Insurance and Bonds.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

3.1 WORK INCLUDED

- A. General: Certain of the components of the Work under this project are Delegated Design. It is the General Contractor's responsibility to coordinate and assume or assign to subcontractors

the complete responsibility for the design, calculations, submittals, fabrication, transportation and installation of the Delegated Design portions or components as required in this Section.

- B. The General Contractor is responsible to submit all documents required by the permitting agency for the separate approval and permit for each Delegated Design item. Delegated Design components of this Work are defined as complete, operational systems, provided for their intended use.
- C. All permit plan review and permit fees for Delegated Design items are the responsibility of the submitting General Contractor.

3.2 DOCUMENTS REQUIRED

- A. General: Delegated Design documents and related permits issuance must be completed prior to fabrication. The General Contractor must complete and submit a Contractor Design Summary Sheet listing Delegated Design Subcontractors and their registered engineer's names and phone numbers prior to submission of the Delegated Design documents for review.
- B. Scope of Documents: Delegated Design components are shown in the Contract Documents for design intent. The purpose is to have the General Contractor responsible to provide, coordinate and install each Delegated Design component.
 - 1. Delegated Design components attached to the structural frame or supplemental to the structural frame shall be designed for the anticipated loads as outlined in the Contract Documents. These Delegated Design components are all to be coordinated with appropriate subcontractors.
 - 2. Load reactions at the interface between the Delegated Design components and the structural frame shall be clearly defined to allow for a review by the Architect and Engineer of Record.
- C. Component Certification: Certify that mechanical and electrical components comply with the structural provisions of all applicable codes.
 - 1. Shop Drawings: Submit shop drawings for all attachments to the structure for all elements requiring structural design per these specifications. These attachments include, but are not limited to, structural bracing for equipment, conveyances, and architectural components; seismic restraints of vibration isolation systems; and details of lateral bracing and attachment systems designed to accommodate differential movement between building levels.
 - 2. Shop Drawings shall be sealed by the structural engineer responsible for their design.
- D. Quality Assurance Plan: Submit a quality assurance plan for the designated structural system of all elements requiring structural design per these specifications. Quality assurance plan shall comply with Owner's requirements and all applicable codes.

END OF SECTION

SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Cutting and patching.
 - 2. Construction layout.
 - 3. Field engineering and surveying, where required.
 - 4. Installation.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 01 10 00 "Summary" for limits on use of Project site.
 - 2. Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
 - 3. Section 02 41 19 "Selective Demolition" for demolition and removal of selected portions of the building.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 PREINSTALLATION MEETINGS

- A. Schedule conference in conjunction with demolition conference. See Section 02 41 19 "Selective Demolition."
- B. Cutting and Patching Conference: Conduct conference at Project site.
 - 1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting and patching work. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:
 - a. Contractor's superintendent.
 - b. Trade supervisor responsible for cutting operations.
 - c. Trade supervisor(s) responsible for patching of each type of substrate.

- d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affected by cutting operations.
2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 SUBMITTALS

- A. Qualification Data: Where required for scope of Work, for land surveyor.
 1. Certificates: Submit certificate signed by licensed surveyor certifying that location and elevation of improvements to comply with requirements.
- B. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting will be performed. Include the following information:
 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 3. Products: List products to be used for patching and firms or entities that will perform patching work
 4. Dates: Indicate when cutting will be performed.
 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- C. Certified Surveys: Where required for scope of Work, submit two copies signed by land surveyor.

1.6 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting structural elements, notify OPR of locations and details of cutting and await directions from OPR before proceeding. Shore, brace, and support structural elements during cutting. Do not cut structural elements in a manner that could change their load-carrying capacity or increase deflection.
 2. Operational Elements: Do not cut operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 3. Other Construction Elements: Do not cut other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 4. Visual Elements: Do not cut construction in a manner that results in visual evidence of cutting. Do not cut and patch exposed construction in a manner that would reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
 - 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

PART 3 - EXECUTION

3.1 EXECUTION, GENERAL

- A. General: 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, 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 OPR any errors, inconsistencies or omissions discovered by or made known to the contractor. 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 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before demolition, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities scheduled to remain.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine existing structure and components to remain and to be removed.
 - 2. Examine walls, floors, and roofs for coordination where future structural elements are indicated to be installed.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.

- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.3 PREPARATION

- A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly, where items are scheduled for reinstallation.
- C. Equipment to Remain: Do not remove "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to OPR and OPM according to requirements in Section 01 30 00 "Administrative Requirements."

3.4 CONSTRUCTION LAYOUT

- A. The following apply to preparation of new construction indicated on Drawings.
- B. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify OPR and Construction Manager promptly.
- C. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project for all phases of Work.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Check the location, level and plumb, of every major element as the demolition Work progresses.
 - 5. Notify OPR and Construction Manager when deviations from required lines and levels exceed allowable tolerances.
 - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Construction Manager.

3.5 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.

- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect or Construction Manager. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to OPR and Construction Manager before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
 - C. Benchmarks: Establish and maintain a minimum of three permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- 3.6 CUTTING AND PATCHING
- A. Cutting, General: Employ skilled workers to perform cutting. Proceed with cutting at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
 - B. Temporary Support: Provide temporary support of work to be cut.
 - C. Protection: Protect in-place construction during cutting to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting operations.
 - D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
 - E. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

- F. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- G. Cleaning: Clean areas and spaces where cutting is performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.
- 3.7 INSTALLATION
- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.
 - G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
 - H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by OPR.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
 - I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
 - J. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section 01 77 00 "Closeout Procedures" for repairing or removing and replacing defective Work.
- 3.8 PROGRESS CLEANING
- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
 - B. Site: Maintain Project site free of waste materials and debris.
 - C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
 - D. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."

- E. Limiting Exposures: Supervise demolition operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the demolition period.

3.9 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Commissioning Section.
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 01 40 00 "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes waste management and disposal.

1.3 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.4 RELATED SECTIONS

- A. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.
- C. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.
- D. Sections 01 73 00 "Execution" and 01 77 00 "Closeout Procedures" for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

PART 2 - PRODUCTS

- Not Used -

PART 3 - EXECUTION

3.1 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

- B. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.
- C. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.
- D. See Sections 01 73 00 and 01 77 00 for trash/waste prevention procedures related to cutting and patching, installation, protection, and cleaning.

END OF SECTION

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Final cleaning.

1.3 SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion per Contract Documents.

1.4 CLOSEOUT SUBMITTALS

- A. See individual sections, and Section 01 78 00 "Closeout Submittals."
- B. Certificates of Occupancy: From authorities having jurisdiction.
- C. Certificate of Insurance: For continuing coverage.
- D. Field Report: For pest control inspection.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete final cleaning requirements.

- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, OPR and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. OPR will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by OPR, that must be completed or corrected before certificate will be issued.
 - 1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for final completion.
- 1.6 FINAL COMPLETION PROCEDURES
- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 - 1. Certified List of Incomplete Items: Submit certified copy of Owner's Substantial Completion inspection list of items to be completed or corrected (punch list). Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 2. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 3. Submit pest-control final inspection report.
 - 4. Submit final completion photographic documentation.
 - B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, OPR and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. OPM will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
- 1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)
- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order, and proceeding from lowest floor to highest floor.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of OPR and Construction Manager.
 - d. Name of Contractor.
 - e. Page number.

4. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Architect, through Construction Manager, will return annotated file.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by agent manufacturer for the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 CLOSE-OUT DUTIES

- A. Mechanical and Electrical Equipment Start-up: See Section 01 73 00 "Execution."
- B. At completion of work of each sub-contract, conduct inspection to assure that:
 1. Work is acceptable.
 2. Specified cleaning has been accomplished.
 3. Temporary facilities and debris have been removed from site.
- C. Substantial Completion:
 1. Conduct inspection and prepare punchlist of work to be completed or corrected.
 2. Assist OPR in punchlist.
 3. Supervise correction and completion of work as established in Architect's observation reports.
- D. Final Completion: Assist Owner's Management with walk-through review and Punchlist.

3.2 FINAL CLEANING

- A. General: Perform final cleaning of Work. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Clean exposed interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces.

- d. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- e. Sweep concrete floors broom clean.
- f. Wipe surfaces of mechanical and electrical equipment and similar equipment where scheduled to remain. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- g. Do not remove "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

Leave Project clean to minimize final cleaning at new construction, and ready for sequential scope of Work.

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

END OF SECTION

SECTION 01 78 00 - CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Project Record Documents.
2. Operation and Maintenance Data.
3. Warranties and bonds.

B. Related Requirements:

1. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
2. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.
3. Individual Product Sections: Specific requirements for operation and maintenance data.
4. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

- A. Project Record Documents: Submit documents to OPM 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. OPR 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 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

3.1 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Addenda.
 - 3. Change Orders and other modifications to the Contract.
- 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. Record 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. Field changes of dimension and detail.
 - 3. Details not on original Contract drawings.

3.2 OPERATION AND MAINTENANCE DATA

- A. 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.

3.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
- 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.

3.4 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. 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.
 - C. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
 - D. Provide servicing and lubrication schedule, and list of lubricants required.
 - E. Include manufacturer's printed operation and maintenance instructions.
 - F. Include sequence of operation by controls manufacturer.
 - G. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - H. Additional Requirements: As specified in individual product specification sections.
- 3.5 OPERATION AND MAINTENANCE MANUALS AND VIDEOS
- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
 - B. Refer to Section 017900 "Demonstration and Training" for requirements.
 - C. Prepare data in the form of an instructional manual.
 - D. Record video of each training session.
- 3.6 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 the Date of Substantial completion is determined.
 - 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.

END OF SECTION

SECTION 01 79 00 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Demonstration of products and systems to be commissioned and where indicated in specific specification sections.
- B. Training of Owner personnel in operation and maintenance is required for:
 - 1. All software-operated systems.
 - 2. HVAC systems and equipment.
 - 3. Plumbing equipment.
 - 4. Electrical systems and equipment.
 - 5. Other components where indicated in individual product Sections.
- C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
 - 1. Finishes, including flooring, wall finishes and ceiling finishes.
 - 2. Fixtures and fittings.
 - 3. Other components where indicated in individual product Sections.
- D. Related Requirements:
 - 1. Section 01 78 00 - Closeout Submittals: Operation and maintenance manuals.
 - 2. Other Specification Sections: Additional requirements for demonstration and training.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures; except:
 - 1. Make all submittals specified in this section, and elsewhere where indicated for commissioning purposes, directly to the OPR.
 - 2. Submit one copy to the OPR, not to be returned.
- B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
- 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. Provide in electronic Portable Document Format (PDF) as well, on USB storage device.

1.4 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
 - 1. Provide as instructors 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

3.1 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. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.
- C. Demonstration may be combined with Owner personnel training if applicable.
- D. 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.
- E. Non-Operating Products: demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
 - 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.2 TRAINING - GENERAL

- A. Conduct training on-site unless otherwise indicated.
- B. Owner will provide classroom and seating at no cost to Contractor.
- C. Do not start training until Functional Testing is complete, unless otherwise specified or approved by the Commissioning Authority.
- D. Provide training in minimum two hour segments.
- E. The Owner is responsible for determining that the training was satisfactorily completed and will provide approval forms.
- F. 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.
- G. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 - 1. The location of the O&M manuals and videos, 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 and videos.
- H. Product- and System-Specific Training:
1. Review the applicable O&M manuals and videos.
 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.
- I. 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 019113 - GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. OPR and BoD documentation are included by reference for information only.

1.2 SUMMARY

- A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.

1.3 DEFINITIONS

- A. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- B. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- C. CxA: Commissioning Authority.
- D. OPR: Owner's Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- E. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

1.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.

B. Members Appointed by Owner:

1. CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Owner will engage the CxA under a separate contract.
2. Representatives of the facility user and operation and maintenance personnel.
3. Architect and engineering design professionals.

1.5 OWNER'S RESPONSIBILITIES

- A. Provide the OPR documentation to the CxA and Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.
- C. Provide the BoD documentation, prepared by Architect and approved by Owner, to the CxA and Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

1.6 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
 1. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
 2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
 3. Attend commissioning team meetings held on a monthly basis.
 4. Integrate and coordinate commissioning process activities with construction schedule.
 5. Review and accept construction checklists provided by the CxA.
 6. Complete electronic construction checklists as Work is completed and provide to the Commissioning Authority on a monthly basis.
 7. Review and accept commissioning process test procedures provided by the Commissioning Authority.
 8. Complete commissioning process test procedures.

1.7 CxA'S RESPONSIBILITIES

- A. Organize and lead the commissioning team.
- B. Provide commissioning plan.
- C. Convene commissioning team meetings.

- D. Provide Project-specific construction checklists and commissioning process test procedures.
- E. Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- F. Prepare and maintain the Issues Log.
- G. Prepare and maintain completed construction checklist log.
- H. Witness systems, assemblies, equipment, and component startup.
- I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 019113

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Salvage of existing items to be reused or recycled.

1.3 DEFINITIONS

- A. General: Application: The following requirements apply to those items indicated in the Drawings.
- B. Demolish: Same as "remove."
- C. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- D. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store for sale or reuse.
- E. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- F. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- G. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Unless otherwise indicated, salvaged and saved items are the property of Owner.
- C. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be selectively demolished, removed and salvaged items.
 - a. Site-walk Review: Walk-through project with Architect to review all items for salvage and reuse.
 - b. Review whether additional survey of existing condition by structural engineer is required.
 - c. Review means and methods of demolition for items indicated to be salvaged or saved for reuse.
 - d. Review means and methods of demolition for items to be removed and adjacent to construction to remain visible.
 2. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 4. Review areas where existing construction is to remain and requires protection.
 5. Document meeting with meeting minutes or other acceptable form, for review and distribution of all items to be salvaged and saved for reuse.

1.6 SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician, where in scope of Work.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: After predemolition conference, indicate the following:
1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted, where applicable.
 - a. Include list of items for salvage.
 - b. Indicate any special removal requirements or methods.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations. Comply with Owner's requirements. Submit before Work begins.

- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- 1.7 CLOSEOUT SUBMITTALS
- A. Inventory: Submit a final list of items that have been removed and salvaged.
- 1.8 QUALITY ASSURANCE
- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- 1.9 FIELD CONDITIONS
- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Maintain free and safe passage to and from building during demolition.
 - B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Contractor will verify adequacy of structure and shoring.
 - C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
 - D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
 - E. Storage or sale of removed items or materials on-site is permitted where reviewed with Contractor, Owner and Architect for location and procedures prior to commencement of demolition Work.
 - 1. Provide adequate storage areas for salvaged heavy timber and other wood items, including sufficient area required for sorting and grading activities.
 - F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
 - G. Shoring: Prior to commencement of demolition Work, verify all required shoring is in place for structural removal and modification.
- 1.10 COORDINATION
- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.
 - B. Coordinate storage layout areas with demolition and new construction schedules as to not interfere with Owner's and Contractor's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - 1. Review required scope of surveying in predemolition conference.
 - 2. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
 - 3. Perform surveys where removal of structure has not been completed.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
 - 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

- A. Refrigerant: Where in scope of Work, before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Arrange to shut off utilities with utility companies.

2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 3. Cover and protect equipment that have not been removed.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use methods for removing wood construction that damages surfaces or edges.
 5. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 6. Maintain fire watch during and for at least four (4) hours after flame-cutting operations.
 7. Maintain adequate ventilation when using cutting torches.
 8. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items: Verify during preconstruction meeting.
1. Clean salvaged items.
 - a. Clean items for sale and/or reuse to functional condition adequate for reuse.
 2. Pack or crate items after cleaning. Identify contents of containers.
 - a. Pack or crate items after cleaning and repair, and identify contents of containers for items for sale.
 3. Store items in a secure area until delivery to Owner.
 4. Metal components, and crane rail and equipment storage: Store in dry locations, off the ground.
 5. Transport items to Owner's storage area designated by Owner.
 6. Protect items from damage during transport and storage.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections, and one of the following:
 - 1. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
 - 2. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.
- B. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- D. Tile: Remove existing tile down to substrate board or concrete substrates, including all setting mortar and membranes. Cut masonry prior to removal where indicated to remain, using methods to not damage portions to remain.
- E. Carpet: Remove carpet and adhesives according to replacement carpet manufacturer's written recommendations. Do not use methods requiring solvent-based adhesive strippers unless approved by Owner and Architect.
- F. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction and recycle or dispose of them.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations.

3.9 SELECTIVE DEMOLITION SCHEDULE

- A. All items listed below shall be reviewed, prior to commencement of demolition Work, during the predemolition conference.
- B. Remove: As indicated.
- C. Remove and Salvage: As indicated.

1. Doors, frames, glass and other items indicated for reinstallation.
- D. Existing to Remain: As indicated, or otherwise not indicated for removal.

END OF SECTION

SECTION 05 50 00 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The General Structural Notes shall be used in conjunction with these specifications. The General Structural Notes shall supersede items in this specification when discrepancies exist.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel framing and supports for applications where framing and supports are not specified in other Sections.
 - 2. Steel shapes.
 - 3. Loose bearing and leveling plates for applications where they are not specified in other Sections.
 - 4. Slotted channel framing for re-configurable structures.
- B. Products furnished, but not installed, under this Section include the following:
 - 1. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
 - 2. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Paint products.
 - 2. Grout.
- B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for all items specified in this Section, including but not limited to all items indicated in "Summary" Article above.
- C. Samples for Verification: For each type and finish where not field painted.
- D. Mill Certificates: Signed by stainless-steel manufacturers, certifying that products furnished comply with requirements.
- E. Welding certificates.

- F. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
 - G. Research/Evaluation Reports: For post-installed anchors, from ICC-ES.
- 1.5 QUALITY ASSURANCE
- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - B. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
 - 3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."
- 1.6 FIELD CONDITIONS
- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Stainless-Steel Sheet, Strip, and Plate: ASTM A 240/A 240M or ASTM A 666, Type 304 at interior locations, Type 316L at exterior locations.
- D. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304 at interior locations, Type 316L at exterior locations.
- E. Rolled-Steel Floor Plate: ASTM A 786/A 786M, rolled from plate complying with ASTM A 36/A 36M or ASTM A 283/A 283M, Grade C or D.
- F. Rolled-Stainless-Steel Floor Plate: ASTM A 793.
- G. Abrasive-Surface Floor Plate: Steel plate with abrasive granules rolled into surface or with abrasive material metallicly bonded to steel].
- H. Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.
- I. Steel Pipe: ASTM A 53/A 53M, Standard Weight (Schedule 40) unless otherwise indicated.
- J. Zinc-Coated Steel Wire Rope: ASTM A 741.
 - 1. Wire-Rope Fittings: Hot-dip galvanized-steel connectors with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.
- K. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
 - 1. Size of Channels: 1-5/8 by 1-5/8 inches (41 by 41 mm) or other manufacturer standard sizes as indicated or as required per delegated design.
 - 2. Material, Exterior and Garage and Other Unconditioned/ Uncontrolled Humidity Locations: Galvanized steel, ASTM A 653/A 653M, structural steel, Grade 33 (Grade 230), with G90 (Z275) coating; 0.079-inch (2-mm) nominal thickness.

3. Material, Interior (Conditioned/ Controlled Humidity) Locations: Cold-rolled steel, ASTM A 1008/A 1008M, structural steel, Grade 33 (Grade 230); 0.0677-inch (1.7-mm) minimum thickness; hot-dip galvanized after fabrication.
4. Recycled Content: 25% minimum post-consumer recycled content.
5. Basis-of-Design Product: Unistrut Metal Framing System by Unistrut USA, Div. of Atkore Intl.; www.unistrut.us.
6. Applications:
 - a. Framing for plumbing, mechanical and electrical equipment and other components; delegated design.
 - b. Re-configurable structures at Merchandising and other locations indicated; design as indicated in Drawings.
- L. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.
- M. Aluminum Plate and Sheet: ASTM B 209 (ASTM B 209M), Alloy 6061-T6.
- N. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T6.
- O. Aluminum-Alloy Rolled Tread Plate: ASTM B 632/B 632M, Alloy 6061-T6.
- P. Aluminum Castings: ASTM B 26/B 26M, Alloy 443.0-F.

2.2 FASTENERS

- A. General: Unless otherwise indicated, provide Type 316 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
 1. Provide stainless-steel fasteners for fastening aluminum.
 2. Provide stainless-steel fasteners for fastening stainless steel.
- B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.
- C. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3 (ASTM A 325M, Type 3); with hex nuts, ASTM A 563, Grade C3 (ASTM A 563M, Class 8S3); and, where indicated, flat washers.
- D. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, ASTM F 593 (ASTM F 738M); with hex nuts, ASTM F 594 (ASTM F 836M); and, where indicated, flat washers; Alloy Group 2 (A4).
- E. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.
 1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- F. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
- G. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 2 (A4) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).
- H. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches (41 by 22 mm) by length indicated with anchor straps or studs not less than 3 inches (75 mm) long at not more than 8 inches (200 mm) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.3 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- B. Water-Based Primer: Emulsion type, anticorrosive primer for mildly corrosive environments that is resistant to flash rusting when applied to cleaned steel, complying with MPI#107 and compatible with topcoat.
- C. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- D. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.
- E. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- F. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- G. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
 - F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
 - G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
 - H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
 - I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
- 2.5 MISCELLANEOUS FRAMING AND SUPPORTS
- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
 - B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
 1. Fabricate units from slotted channel framing where indicated.
 2. Furnish inserts for units installed after concrete is placed.
 - C. Fabricate supports for operable partitions from continuous steel beams of sizes indicated or as recommended by partition manufacturer with attached bearing plates, anchors, and braces as indicated or recommended by partition manufacturer. Drill or punch bottom flanges of beams to receive partition track hanger rods; locate holes where indicated on operable partition Shop Drawings.
 - D. Fabricate steel girders for wood frame construction from continuous steel shapes of sizes indicated.
 1. Provide bearing plates welded to beams where indicated.
 2. Drill or punch girders and plates for field-bolted connections where indicated.
 3. Where wood nailers are attached to girders with bolts or lag screws, drill or punch holes at 24 inches (600 mm) o.c. or spacing indicated.
 - E. Galvanize miscellaneous framing and supports where indicated.
 - F. Prime miscellaneous framing and supports with zinc-rich primer where indicated.
- 2.6 STEEL SHAPES
- A. Fabricate from steel angles and shapes of size indicated. Fabricate in single lengths unless otherwise indicated. Weld adjoining members together where indicated.
 - B. Galvanize and prime steel located in exterior walls.
 1. Prime steel items located in exterior walls with zinc-rich primer.
- 2.7 MISCELLANEOUS STEEL TRIM
- A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.

- B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.
 - C. Galvanize and prime exterior miscellaneous steel trim.
- 2.8 LOOSE BEARING AND LEVELING PLATES
- A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.
 - B. Galvanize plates.
 - C. Prime plates with zinc-rich primer.
- 2.9 FINISHES, GENERAL
- A. Finish metal fabrications after assembly.
 - B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.
- 2.10 STEEL AND IRON FINISHES
- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
 - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
 - B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
 - C. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
 - 1. Shop prime with universal shop primer indicated.
 - D. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
 - 1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 3. Items Indicated to Receive Primers Specified in Section 09 96 00 "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 4. Other Items: SSPC-SP 3, "Power Tool Cleaning."
 - E. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

- 3.1 INSTALLATION, GENERAL
- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
 - B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.

Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface. Finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds: no evidence of a welded joint.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
 - 1. Cast Aluminum: Heavy coat of bituminous paint.
 - 2. Extruded Aluminum: Two coats of clear lacquer.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor supports for ceiling hung toilet partitions, operable partitions, aluminum-framed folding storefront system, and overhead doors securely to, and rigidly brace from, building structure.
- C. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.
 - 1. Where grout space under bearing plates is indicated for girders supported on concrete or masonry, install as specified in "Installing Bearing and Leveling Plates" Article.
- D. Install pipe columns on concrete footings with grouted baseplates. Position and grout column baseplates as specified in "Installing Bearing and Leveling Plates" Article.
 - 1. Grout baseplates of columns supporting steel girders after girders are installed and leveled.

3.3 INSTALLING BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with nonshrink grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.
- B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Section 09 96 00 "High-Performance Coatings."
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

3.5 FIELD QUALITY CONTROL

- A. Tests and Inspections: The owner will employ the services of an independent testing laboratory for performing test and to conduct inspection services on all shop fabricated and on-site structural welding and bolting plus expansion anchor, grouted anchor, and adhesive anchor placement required for this construction and as required per the Statement of Special Inspections within the Structural Drawings.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The General Structural Notes shall be used in conjunction with this specification. The General Structural Notes shall supersede items in this specification when discrepancies exist.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wood blocking and nailers.
 - 2. Dimensional lumber framing.
 - 3. Wood furring and grounds.
 - 4. Plywood backing panels.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) size or greater but less than 5 inches nominal (114 mm actual) size in least dimension.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- B. Fastener Patterns: Full-size templates for fasteners in exposed framing.
- C. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- D. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Fire-retardant-treated wood.

3. Engineered wood products, including PSL and LSL.
 - E. Shop Drawings: Provide shop drawings which indicate sizes and spacings of I-joists and engineered lumber framing. If wood stud walls are shop fabricated, submit shop drawings for the wall panels indicating framing type and spacing, wall panel heights, wood panel nailing, and details of panel to panel connections.
- 1.5 QUALITY ASSURANCE
- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: All wood shall be kiln dried.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2 for interior construction not in contact with ground.
 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- D. Application: Treat all items indicated on Drawings, and the following:
 1. All items in contact with concrete and masonry.
 2. Wood framing and furring directly attached to the interior of exterior masonry or concrete walls.
 3. Furring and blocking installed in roofing assemblies.
 4. Furring located outside of weather barrier, in cavity or roof constructions.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
 - 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201/D 3201M at 92 percent relative humidity. Use where exterior type is not indicated.
 - 4. Design Value Adjustment Factors: Treated lumber plywood shall be tested according to ASTM D 5516 and design value adjustment factors shall be calculated according to ASTM D 6305. Span ratings after treatment shall be not less than span ratings specified.
- C. Kiln-dry plywood after treatment to S-DRY (19 percent maximum moisture content). Do not use material that is warped or does not comply with requirements for untreated material.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- A. Application: Treat all items indicated on Drawings, and the following:
 - 1. Where indicated in articles below.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
 - 4. Grounds.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of the following species:
 - 1. Western woods; WCLIB or WWPA.
- C. Concealed Boards: 19 percent maximum moisture content and the following species and grades:
 - 1. Western woods; Construction or No. 2 Common grade; WCLIB or WWPA.
- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

- F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.
- 2.5 PLYWOOD BACKING PANELS
- A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, A-C, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.
- 2.6 FASTENERS
- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
 - B. Nails, Brads, and Staples: ASTM F 1667.
 - C. Wood Screws: ASME B18.6.1.
 - D. Lag Bolts: ASME B18.2.1.
 - E. Bolts: Steel bolts complying with ASTM A307, Grade A, with ASTM A563 hex nuts and flat washer.
 - F. Fasteners for Treated Lumber: Provide Type 304 stainless steel in contact with pressure treated or fire-retardant treated wood, If connectors are utilized, the finish on the connectors and fasteners shall be of the same type.
 - 1. Galvanized fasteners are not permitted with preservative-treated lumber.
 - G. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- 2.7 MISCELLANEOUS MATERIALS
- A. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient.

PART 3 - EXECUTION

- 3.1 INSTALLATION, GENERAL
- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
 - B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
 - C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
 - D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - E. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
 - F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.

2. Use copper naphthenate for items not continuously protected from liquid water.
 - G. Where wood-preservative-treated lumber is installed adjacent to or in contact with galvanized metal, metal decking, metal framing, or zinc-coated metal, install continuous flexible flashing separator between wood and metal.
 - H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 2. ICC-ES evaluation report for fastener.
 - I. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
 - J. Headers at Non-Bearing Wood Stud Walls: Fabricate from two or more members on edge with shims as required, spike solidly together. Install trimmer stud below header and cripple stud above header at each rough jamb stud. Unless noted on the drawings, the minimum header sizes for non-bearing walls shall be as follows:
 1. Up to 4-feet inclusive: Minimum two 2x6 or one 4x6.
 2. 4-feet to 6-feet inclusive: Minimum two 2x8 or one 4x8.
 3. 6-feet to 8-feet inclusive: Minimum two 2x10 or one 4x10.
 4. Over 8-feet: Contact Architect and Engineer if not shown on drawings.
- 3.2 WOOD BLOCKING, AND NAILER INSTALLATION
- A. Install where indicated and where required for screeding or attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
 - B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
 - C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.
- 3.3 WOOD FURRING INSTALLATION
- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
 - B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal- (19-by-63-mm actual-) size furring horizontally and vertically at 24 inches (610 mm) o.c.
- 3.4 DEFLECTION HEAD CONSTRUCTION
- A. Required at the top of all non-bearing wall partitions that occur under open-web type framing members and where required within drawings. Allow minimum 3/4-inch space between top plate of wall and bottom truss chord for deflection tolerance.
- 3.5 PROTECTION
- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

SECTION 06 40 00 – ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes interior casework and woodwork, including but not limited to the following:
 - 1. Architectural Casework, Cabinets, Hardware and Accessories.
 - a. Laminate finishes (PLAM-#).
 - b. Solid Surface (SS-1).
 - c. Wood Paneling (WP-1).
 - d. Cabinet hardware and accessories.
 - 2. Wood furring, blocking, shims, and hanging strips for installing architectural woodwork unless concealed within other construction before installation.
- B. Related Requirements:
 - 1. Section 09 22 16 “Non-Structural Metal Framing” for metal furring, blocking.
 - 2. Section 09 29 00 “Gypsum Board”.
 - 3. Division 26 “Electrical” for sections for electrical work to be coordinated with cabinets.

1.3 PREINSTALLATION MEETINGS

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

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical treatment manufacturer's written instructions for finishing treated material.
 - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.

- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, attachment devices, and other components.
 - 1. Show connection details half-size.
 - 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other sections.
 - 3. Show locations and sizes of cutouts and holes for electrical switches and outlets and other items installed in architectural wood cabinets.
 - 4. Show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leave.
 - 5. Apply AWI Quality Certification Program label to Shop Drawings.
- C. Samples for Verification:
 - 1. Plastic Laminates, 4 by 4 inches for each type, color, and pattern.
 - 2. Quartz surfacing, 4 by 4 inches for each type, color, and pattern.
 - 3. Woodworking Products: For each species, cut, profile, and finish; demonstrate range of color and grain variation expected in Work.
- D. Qualification Data: For Installer/Fabricator.
- E. Product Certificates: For each type of product.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For cabinets, woodwork finishes, hardware and laminate to include in operation and maintenance manuals.
 - 1. In addition to items specified in Division 01 Sections for operation and maintenance submittal requirements, include the following:
 - a. Precautions for cleaning materials and methods that could be detrimental to finishes and performance for all exposed finishes.
 - b. Methods for maintaining and adjusting hardware.

1.6 QUALITY ASSURANCE

- A. Quality Standard: Unless otherwise indicated, comply with the Woodwork Institute's "Architectural Woodwork Standards" for grades of indicated for construction, finishes, installation, and other requirements.
 - 1. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.
- B. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.
- B. Deliver wood materials only when environmental conditions comply with requirements specified for installation areas. If materials must be stored in other than installation areas, store only where environmental conditions comply with requirements specified for installation areas.
- C. Do not deliver cabinets until painting and similar operations that could damage woodwork have been completed in installation areas.

1.8 FIELD CONDITIONS

- A. Temperature and Humidity for Installation: As required by referenced quality standards, and fabricator to maintain moisture content of installed Work within 1.0 percent of optimum moisture content, maintain conditions until final acceptance.
- B. Do not install materials that are wet, moisture damaged, or mold damaged.
- C. Field Measurements: Taken prior to fabrication of woodwork to be fitted to other construction, verify dimensions on shop drawings.
 - 1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.9 COORDINATION, SEQUENCE AND SCHEDULING

- A. Equipment Coordination: Distribute copies of approved equipment schedules to fabricator of architectural woodwork; coordinate Shop Drawings and fabrication with clearance requirements.
 - 1. Where dimensional conflicts occur, notify Architect or indicate on Shop Drawings.
- B. Complete work in installation areas which could damage architectural woodwork, and establish controlled environmental conditions prior to delivery of materials.
- C. Deliver anchoring devices to be built into substrates, well in advance of time substrates are to be built.
- D. Conditioning Period: Store wood products for four days (96 hours) at Project prior to installation.
- E. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that paneling can be installed as indicated.
- F. Coordinate wood finishes with all wood-veneer applications in Project.

PART 2 - PRODUCTS

2.1 ARCHITECTURAL FABRICATORS

1. Source Limitations: Engage a qualified woodworking firm to assume undivided responsibility for production of architectural wood cabinets.

2.2 ARCHITECTURAL CABINETS AND WOODWORK, GENERAL

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural wood cabinets indicated for construction, finishes, installation, and other requirements.
 1. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.
- B. All cabinets, casework, countertops, fabrications and woodwork shall be AWS Premium Grade, unless indicated otherwise.
- C. Fire Performance Characteristics: Comply with ASTM E 84 for classification indicated and required by code.

2.3 PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS, PL-1.

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural plastic-laminate cabinets indicated for construction finishes, installation, and other requirements.
 1. Provide labels and certificates from AWI certification program indicating that woodwork, including installation, complies with requirements of grades specified.
 2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.
- B. Grade: Premium.
- C. Type of Construction: Frameless.
- D. Cabinet, Door, and Drawer Front Interface Style: Flush overlay.
- E. Reveal Dimension: 1/8 inch (3 mm) unless indicated otherwise.
- F. High-Pressure Decorative Laminate: NEMA LD3, grades as indicated or if not indicated, as required by woodwork quality standard.

- G. Laminate Cladding for Exposed Surfaces:
 - 1. Horizontal Surfaces: Grade HGS.
 - 2. Postformed Surfaces: Grade HGP.
 - 3. Vertical Surfaces: Grade HGS.
 - 4. Edges: Grade HGS.
 - 5. Pattern Direction: Vertically for drawer fronts, doors, and fixed panels, unless indicated otherwise.

 - H. Materials for Semi-Exposed Surfaces:
 - 1. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, NEMA LD3, Grade VGS.
 - 2. Drawer Slides and Backs: Solid-hardwood lumber.
 - 3. Drawer Bottoms: Hardwood plywood.

 - I. Dust Panels: 1/4-inch plywood or tempered hardwood above compartments and drawers unless located directly under tops.

 - J. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

 - K. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.
 - 1. Join subfronts, backs, and sides with glue rabbeted joints supplemented by mechanical fasteners.

 - L. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements.
 - 1. Basis of Design, PL-1: Pattern SG241-N "Folkstone Gray" by Pionite Surface Systems; Finish: Textured/Suede (SD)
- 2.4 SOLID SURFACE RECEPTION DESK, SS-1.
- A. Basis of Design Manufacturer: Cambria
 - 1. Product: Quartz Surfacing.
 - 2. Color: Dunmore / Matte Finish
 - 3. Thickness: 2 cm.

 - B. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."
 - 1. Grade: Premium.

 - C. Configuration:
 - 1. Front: Straight, slightly eased at top.
 - 2. Backsplash: None.
 - 3. End Splash: None.

 - D. Countertops: 2 cm thick unless otherwise indicated, solid surface material with front edge built up with same material as indicated in Drawings.

 - E. Joints: Fabricate countertops without joints to the greatest extent possible.

2.5 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
 - 1. Do not use plain-sawn softwood lumber with exposed, flat surfaces more than 3 inches (75 mm) wide.
 - 2. Wood Moisture Content: 8 to 13 percent.
- B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.
 - 1. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130, unless indicated otherwise.
 - 2. Softwood Plywood: DOC PS 1, medium-density overlay.
 - 3. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1.
 - 4. Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for test methods 3.3, 3.4, 3.6, 3.8, and 3.10.

2.6 INTERIOR STANDING AND RUNNING TRIM AND FRAMES FOR TRANSPARENT FINISH

- A. Grade: Premium
- B. Regional Materials: Interior trim and frames for transparent finish shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- C. Certified Wood: Interior trim for transparent finish shall be certified as "FSC Pure" or "FSC Mixed Credit" according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
- D. Wood Species and Cut:
 - 1. Species: Douglas Fir
 - 2. Cut: Quarter sawn.
 - 3. Provide split species on trim that faces areas with different wood species, matching each face of woodwork to species and cut of finish wood surfaces in areas finished.
- E. For trim items wider than available lumber, use veneered construction. Do not glue for width.
 - 1. For veneered base, use hardwood lumber core, glued for width.

- F. For base wider than available lumber, glue for width. Do not use veneered construction.
- G. For rails thicker than available lumber, use veneered construction. Do not glue for thickness.

2.7 FLUSH WOOD PANELING (WOOD-VENEER WALL SURFACING), WP-1.

- A. Basis of Design Manufacturer: Formology
 - 1. Product: LignaFORM
 - 2. Type: Linear Douglas Fir
 - 3. Finish: Staysclear
 - 4. Thickness: $\frac{3}{4}$ "
- B. Exposed Panel Edges: Applied solid-wood banding.
- C. Fire-Retardant-Treated Paneling: Panels shall be listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction.

2.8 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.
 - 1. Comply with ANSI-BHMA A156.9, unless indicated otherwise.
 - 2. Provide uniform appearance in the metal finish for all hardware components.
 - 3. Finish to comply with BHMA A156.18.
- B. Frameless Concealed Hinges: BHMA A156.9, B01602, 170 degrees of opening, self closing.
 - 1. 130 degree opening acceptable below glass display.
 - 2. Provide number of hinges required for door weight.
- C. Pulls: Back mounted, solid metal;
 - 1. Basis of Design Product: Hafele 109.86.002 Handle, Zinc, Soho Collection
 - 2. Depth: 27mm
 - 3. Finish: Stainless Steel.
- D. Catches: Magnetic type; Ives 325, 12 lb. pull; where required.
- E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.
- F. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip.
- G. Drawer Slides: BHMA A156.9.
 - 1. Grade 1: Side mounted and extending under bottom edge of drawer; full-extension type; zinc-plated steel with polymer rollers.
 - 2. Grade 1HD-100 and Grade 1HD-200: Side mounted; full-overtravel-extension type; zinc-plated-steel ball-bearing slides.

3. For drawers not more than 3 inches (75 mm) high and not more than 24 inches (600 mm) wide, provide Grade 1.
 4. For drawers more than 3 inches (75 mm) high but not more than 6 inches (150 mm) high and not more than 24 inches (600 mm) wide, provide Grade 1HD-100.
 5. For drawers more than 6 inches (150 mm) high or more than 24 inches (600 mm) wide, provide Grade 1HD-200.
 6. For computer keyboard shelves, provide Grade 1HD-100.
 7. For trash bins not more than 20 inches (500 mm) high and 16 inches (400 mm) wide, provide Grade 1HD-200.
- H. Aluminum Slides for Sliding Glass Doors: BHMA A156.9, B07063.
- I. Door Locks: BHMA A156.11, E07121.
- J. Drawer Locks: BHMA A156.11, E07041.
- K. Door and Drawer Silencers: BHMA A156.16, L03011.
- L. Grommets:
1. Basis-of-Design Product: MM4/Set – 2-3/8" MM4 Solid Brass Desk Grommet – Cap and Liner set by Mockett.
 2. Finish: Satin Chrome (26D).
 3. Locations: Where indicated on Drawings or as indicated by Architect and owner in field.

2.9 FABRICATION

- A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- B. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
1. Corners of Cabinets: 1/16 inch (1.5 mm) unless otherwise indicated.
- C. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
1. Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
 2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- D. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

- E. Install glass to comply with applicable requirements in Section 088000 "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.
 - F. Refer to 05 75 00 "Decorative Formed Metal", Fabrication, General Paragraphs for fabricating metal-faced cabinets.
 - 1. Weld continuously and grind flush all joints, corners, edges and seams.
 - 2. Return metal facing at panel edges, perimeter and openings.
- 2.10 SHOP FINISHING
- A. General: Finish architectural wood cabinets at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
 - B. General: Shop finish transparent-finished architectural wood cabinets at fabrication shop as specified in this Section.
 - C. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural wood cabinets, as applicable to each unit of work.
 - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of cabinets.
 - D. Transparent Finish:
 - 1. Grade: Premium.
 - 2. Finish: System - 5, conversion varnish.
 - 3. Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to cabinets made from closed-grain wood before staining and finishing.
 - 4. Staining: Clear to match Architect's sample.
 - 5. Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.
 - 6. Filled Finish for Open-Grain Woods After staining, apply wash-coat sealer and allow to dry. Apply paste wood filler and wipe off excess. Tint filler to match stained wood.
 - 7. Sheen: Flat, 15-30 gloss units measured on 60-degree gloss meter per ASTM D 523 to match Architect's approved sample.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installation, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.
- C. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

3.3 INSTALLATION

- A. Do not use materials that are unsound; warped; improperly treated or finished; inadequately seasoned; too small to fabricate with proper jointing arrangements; or with defective surfaces, sizes, or patterns.
- B. Install woodwork plumb, level, true and straight with no distortions. Scribe and cut woodwork to fit adjoining work including variations in finish floors, and refinish cut surfaces or repair damaged finish at cuts. Coordinate woodwork with electrical and plumbing work.
 - 1. Shims: Concealed, provide as required.
 - 2. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
- C. Secure Work to grounds, stripping, blocking, and inserts. Use concealed fasteners and blind nailing wherever possible. Countersink, fill flush and finish exposed fasteners to match adjacent surface, unless otherwise indicated.
- D. Architectural Woodwork: Comply with requirements, and AWI Section 6, matching grades indicated, and the following:
 - 1. Standing and Running Trim: Division A, Premium grade. Gaps behind members shall be filled and finished to match the backing surface.
 - 2. Cabinets and Casework: Division A, Premium grade.
- E. Field Joints: Acceptable only as shown on approved submittals. Install work with the minimum number of joints possible. Cope and miter joints; stagger joints in adjacent and related members. Comply with AWI quality standards referenced for shop fabrication.
- F. Tolerances: 1/8-inch in 8 feet for plumb and level (including tops); and with no variations in flushness of adjoining surfaces, except where referenced standard is tighter.

3.4 ADJUSTMENT, CLEANING, FINISHING, AND PROTECTION

- A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair replace Work. Adjust joinery for uniform appearance.
- B. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.
- C. Provide final protection and maintain conditions, in a manner acceptable to Fabricator and Installer, which ensures architectural woodwork being without damage or deterioration at time of substantial completion.

END OF SECTION

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes hollow-metal work.
- B. Related Requirements:
 - 1. Section 08 14 33 "Stile and Rail Wood Doors" for coordination with frames.

1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 PREINSTALLATION MEETINGS

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

1.6 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, temperature-rise ratings, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door type.
 - 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
 - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 - 4. Locations of reinforcement and preparations for hardware.
 - 5. Details of each different wall opening condition.
 - 6. Details of anchorages, joints, field splices, and connections.
 - 7. Details of accessories.
 - 8. Details of moldings, removable stops, and glazing.
 - 9. Details of conduit and preparations for power, signal, and control systems.
- C. Samples for Verification:
 - 1. For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches (75 by 127 mm).

2. For "Doors" and "Frames" subparagraphs below, prepare Samples approximately 8 by 10 inches (203 by 254 mm) to demonstrate compliance with requirements for quality of materials and construction:
 - a. Doors: Show vertical-edge, top, and bottom construction; core construction; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
 - b. Frames: Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow-metal panels and glazing if applicable.
 - D. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.
 - E. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.
 - F. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
 1. Provide additional protection to prevent damage to factory-finished units.
 - B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
 - C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
 1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
- B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR DOORS AND FRAMES

- A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

- B. Standard-Duty Doors and Frames: SDI A250.8, Level 1. At interior locations indicated in the Door and Frame Schedule.
1. Physical Performance: Level C according to SDI A250.4.
 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches (44.5 mm).
 - c. Face: Uncoated, cold-rolled steel sheet, minimum thickness of 0.032 inch (0.8 mm).
 - d. Edge Construction: Model 1, Full Flush.
 - e. Core: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core at manufacturer's discretion.
 3. Frames:
 - a. Materials: Uncoated, cold-rolled steel sheet, minimum thickness of 0.042 inch (1.0 mm).
 - b. Sidelite and Transom Frames: Fabricated from same thickness material as adjacent door frame.
 - c. Construction: Face welded.
 4. Exposed Finish: Prime.
- 2.4 EXTERIOR HOLLOW-METAL DOORS AND FRAMES
- A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2. At door 147.
1. Physical Performance: Level B according to SDI A250.4.
 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches (44.5 mm.)
 - c. Face: Metallic-coated steel sheet, minimum thickness of 0.042 inch (1.0 mm), with minimum A40 (ZF120) coating.
 - d. Edge Construction: Model 2, Seamless.
 - e. Core: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core at manufacturer's discretion.
 - 1) Thermal-Rated Doors: Provide doors fabricated with thermal-resistance value (R-value) of not less than 2.1 deg F x h x sq. ft./Btu (0.370 K x sq. m/W) when tested according to ASTM C 1363.
 3. Frames:
 - a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A40 (ZF120) coating.
 - b. Construction: Full profile welded.

4. Exposed Finish: Prime.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick, flush with frame and allows for shim space.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm), and as follows:
 1. Match jamb anchors, located not more than 6-inches from bottom of frame.

2.6 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
- G. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- I. Glazing: Comply with requirements in Section 08 80 00 "Glazing."
- J. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.7 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
 1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch (0.66 mm), steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches (152 mm) apart. Spot weld to face sheets no more than 5 inches (127 mm) o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.

2. Fire Door Cores: As required to provide fire-protection and temperature-rise ratings indicated.
 3. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
 4. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closures at exterior doors of same material as face sheets.
 5. Bottom Edge Closures: Close bottom edges of doors with end closures or channels of same material as face sheets.
 6. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
 7. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.
- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
1. Sidelite and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
 4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
 5. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches (1524 mm) high.
 - 2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - 3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
 - 4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
 6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
 7. Terminated Stops: Terminate stops 6 inches (152 mm) above finish floor with a 45-degree angle cut, and close open end of stop with steel sheet closure. Cover opening in extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.
- D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.

- E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 - 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 - 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.
 - F. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with [butted] [or] [mitered] hairline joints.
 - 1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
 - 2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
 - 3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
 - 4. Provide loose stops and moldings on inside of hollow-metal work.
 - 5. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
- 2.8 STEEL FINISHES
- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
 - 1. Punch and dimple frames, and exposed frame fasteners are not permitted.

- B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable stops located on secure side of opening.
 - d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - e. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 2. Wood-Stud Partitions: Secure frames in place according to manufacturer's written instructions.
 3. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Steel Doors:
 - a. Between Door and Frame Jambs and Head: 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
 - b. Between Edges of Pairs of Doors: 1/8 inch (3.2 mm) to 1/4 inch (6.3 mm) plus or minus 1/32 inch (0.8 mm).
 - c. At Bottom of Door: 3/8 inch.
 - d. Between Door Face and Stop: 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) plus or minus 1/32 inch (0.8 mm).
 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
 3. Smoke-Control Doors: Install doors and gaskets according to NFPA 105.
- D. Glazing: Comply with installation requirements in Section 08 80 00 "Glazing" and with hollow-metal manufacturer's written instructions.
1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION

SECTION 08 33 23 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Overhead Coiling Counter Doors, power operated.
- B. Related Requirements:
 - 1. Section 055000 "Metal Fabrications" for miscellaneous steel supports.

1.3 SUBMITTALS

- A. Product Data: For each type and size of overhead coiling door and accessory.
- B. Shop Drawings.
- C. Samples.
- D. Qualification Data: For Installer.
- E. Maintenance Data: For overhead coiling doors to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

1.6 COORDINATION

- A. Coordinate Work with other operations and installation of adjacent finish materials to avoid damage to installed materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS, GENERAL

- A. Source Limitations: Obtain overhead coiling doors from single source from single manufacturer.
 - 1. Obtain operators and controls from overhead coiling door manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Overhead coiling doors shall withstand the effects of earthquake motions determined according to **[ASCE/SEI 7] <Insert requirement>**.
 - 1. Component Importance Factor: **[1.5] [1.0]**.

2.3 OVERHEAD COILING STEEL COUNTER DOORS

- A. Galvanized Steel Counter Doors.
 - 1. Basis of design: Overhead Door Corporation, 650 Series
 - 2. Wall Mounting Condition:
 - a. Face-of-wall mounting.
 - 3. Curtain: Interlocking slats, Type F-158 fabricated of 22 gauge galvanized steel. Endlocks attached to alternate slats to maintain curtain alignment and prevent lateral slat movement.
 - 4. Finish:
 - a. Slats and hood galvanized steel in accordance with ASTM A 653 with rust-inhibitive, roll coating process, including 0.2 mils thick baked-on prime paint, and 0.6 mils thick baked-on polyester (powder coated) top coat.
 - 1) Powder coat:
 - a) Premium: Manufacturer standard gray, provide sample to architect for approval.
 - b. Non-galvanized exposed ferrous surfaces for guides, bottom bar and head plates shall receive one coat of rust-inhibitive primer.
 - 5. Bottom Bar:

- a. Steel tubular locking bottom bar.
- 6. Guides: Extruded aluminum.
- 7. Brackets: Steel plate to support counterbalance, curtain and hood.
- 8. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel.
- 9. Hood: Provided with intermediate support brackets as required and fabricated of:
 - a. Galvanized primed steel.
- 10. Operation:
 - a. Electric motor.
- 11. Electric Motor Operation: Provide UL listed electric operator, size as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.
 - a. Sensing Edge Protection:
 - 1) Electric sensing edge.
 - b. Operator Controls:
 - 1) Push-button operated control stations with open, close, and stop buttons.
 - 2) Controls for interior location.
 - 3) Controls flush mounted.
- 12. Locking:
 - a. Two point dead locks with mortise cylinder/s.

2.4 MATERIALS, GENERAL

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.5 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, in a continuous length for width of door without splices.
 - 1. Steel Door Curtain Slats: Zinc-coated (galvanized), cold-rolled structural steel sheet; complying with ASTM A 653/A 653M.
 - 2. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face.
- B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated.

2.6 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head.
 - 1. Galvanized Steel complying with ASTM A 653/A 653M.

2.7 LOCKING DEVICES

- A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.
- B. Locking Device Assembly: Fabricate with cylinder lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bars to engage through slots in tracks.

2.8 COUNTERBALANCING MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

2.9 ELECTRIC DOOR OPERATORS

- A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and operation-cycles requirement specified.
 - 1. Comply with NFPA 70.
 - 2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V ac or dc.
- B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each door.
- C. Motors: Reversible-type motor with controller (disconnect switch) for motor exposure indicated.

2.10 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM/NOMMA's "Metal Finishes Manual for Architectural and Metal Products (AMP 500-06)" for recommendations for applying and designating finishes.

2.11 STEEL AND GALVANIZED-STEEL FINISHES

- A. Factory Prime Finish: Manufacturer's standard primer, compatible with field-applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.
- B. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Install overhead coiling doors, hoods, controls, and operators at the mounting locations indicated for each door.
- C. Power-Operated Doors: Install according to UL 325.

3.2 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. Perform installation and startup checks according to manufacturer's written instructions.

END OF SECTION 083323

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - 1. Mechanical door hardware for the following:
 - a. Swinging doors.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Section 08 11 13 "Hollow Metal Doors and Frames."

1.3 REFERENCES

- A. Codes: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.
- B. Standards: All hardware specified herein shall comply with the following industry standards:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series.
 - 2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

- B. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastening and other pertinent information.
 - d. Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
 5. Keying Schedule: Prepared by or under the supervision of Installer, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.
- C. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.
- D. Warranty: Special warranty specified in this Section.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.

1.5 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented commercial experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

- B. Installer Qualifications: A minimum 3 years documented commercial experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented commercial experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner's Authorized Representative concerning both standard and electromechanical door hardware and keying.
- D. Source Limitations: Obtain each type of door hardware from a single manufacturer.
- E. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.
- F. Preinstallation Conference: Conduct conference at Project Site.
 - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 2. Inspect and discuss preparatory work performed by other trades.
 - 3. Inspect and discuss electrical roughing-in for electrified door hardware.
 - 4. Review sequence of operation for each type of electrified door hardware.
 - 5. Review required testing, inspecting, and certifying procedures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
- D. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.7 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified

hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

1.8 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Special Warranty Periods:
 - 1. Mortise Locks and Latches: Ten years from date of Substantial Completion.
 - 2. Exit Hardware: Five years from date of Substantial Completion.
 - 3. Manual Surface Door Closer Bodies: Twenty five years from date of Substantial Completion.
 - 4. Heavy-Duty Floor Closers: Ten years from date of Substantial Completion.
 - 5. Shallow Depth Floor Closers: Two years from date of Substantial Completion.
 - 6. Electromechanical Door Hardware: Two years from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 CITY OF WILSONVILLE REQUIREMENTS

- A. Any key locking devices e.g., programmers, interrogators, junction boxes, etc. must be capable of accepting a City of Wilsonville – supplied lock.
- B. All exit devices shall be approved by the Owner.
- C. All new hardware shall be supplied with Owner standard cylinders.
- D. UP AL&KS shall make provisions for pinning for lock cylinders.
- E. For all remodel projects, the existing hardware shall be matched with existing building hardware unless that hardware is no longer available. If unavailable refer to the OSU AL&KS.
- F. City of Wilsonville cylindrical lock-sets shall be ADA compliant.
- G. Partial renovations which only require some rekeys will be placed on the building's existing system.

2.2 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with Owner requirements and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations.
- C. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the Architect, Owner's Authorized Representative, and their designated consultants.

2.3 HANGING DEVICES

- A. Hinges: Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
 - a. Quantity: Provide the following hinge quantity, unless otherwise indicated:
 - b. Two Hinges: For doors with heights up to 60 inches.

- c. Three Hinges: For doors with heights 61 to 90 inches.
- d. Four Hinges: For doors with heights 91 to 120 inches.
- e. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
 - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all outswinging lockable doors.
5. Acceptable Manufacturers:
 - a. Per City Standard.

2.4 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.
 1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
 2. Furnish dust proof strikes for bottom bolts.
 3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
 5. Acceptable Manufacturers:
 - a. Per City Standard.
- B. Coordinators: ANSI/BHMA A156.3 certified door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.
 1. Acceptable Manufacturers:
 - a. Per City Standard.
- C. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
 1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.

3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
 4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
 5. Acceptable Manufacturers:
 - a. Per City Standard.
- D. Locking Pull System: Post-mount style door pulls with integrated deadbolt locking system in type and design as specified in the Hardware Sets. Pulls available in multiple head, floor, or combination locking options, with outside keyed rim cylinder operation and inside turn piece activation. Mounting applications for aluminum, glass, steel and wood doors, with customized sizing and configuration options. Pull finishes include brass, bronze, and stainless steel.
1. Acceptable Manufacturers:
 - a. Per City Standard.

2.5 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years commercial experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
- C. Cylinders: Original manufacturer cylinders complying with the following:
 1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
 2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
 4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 5. Keyway: Match Facility Restricted Keyway.
- D. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:
 1. Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders.
- E. Keying System: Each type of lock and cylinders to be factory keyed.
 1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 3. Existing System: Key locks to Owner's existing system.
- F. Key Quantity: Provide the following minimum number of keys:
 1. Change Keys per Cylinder: Two (2)

2. Master Keys (per Master Key Level/Group): Five (5).
 3. Construction Keys (where required): Ten (10).
- G. Construction Keying: Provide construction master keyed cylinders.
- H. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field reversible for handing without disassembly of the lock body.
1. Acceptable Manufacturers:
 - a. Per City Standards
- B. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified.
1. Furnish with solid cast levers, standard 2 3/4" backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.
 2. Locks are to be non-handed and fully field reversible.
 3. Acceptable Manufacturers:
 - a. Per City standards.

2.7 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 4. Dustproof Strikes: BHMA A156.16.

2.8 ARCHITECTURAL TRIM

- A. Door Protective Trim
 - 1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
 - 2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
 - 3. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, 050-inch thick.
 - 4. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
 - 5. Acceptable Manufacturers:
 - a. Per City Standard.

2.9 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 - 1. Acceptable Manufacturers:
 - a. Per City standard.

2.10 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Acceptable Manufacturers:
 1. Per City Standard.

2.11 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.12 FINISHES

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
- B. Wood Doors: Comply with DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated on Drawings unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Custom Steel Doors and Frames: HMMA 831.
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Lock Cylinders: Install construction cores to secure building and areas during construction period.
 - 1. Replace construction cores with permanent cores as directed by Owner.
 - 2. Furnish permanent cores to Owner for installation.
- E. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- F. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."
- G. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

- H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- I. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- J. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the Architect and Owner's Authorized Representative. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the Architect or Owner's Authorized Representative with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
- B. See Drawings for hardware sets.

- C. Manufacturer's Abbreviations:
1. MK - McKinney
 2. RF - Rixson
 3. RO - Rockwood
 4. IV - Ives
 5. BE - Stanley Security Solutions Inc (BE)
 6. SH - Schlage Electronic Security
 7. VD - Von Duprin
 8. HS - HES
 9. LC - LCN Closers
 10. PE - Pemko

END OF SECTION 08 71 00

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

1. Glass for non-rated interior windows, doors, and interior storefront framing.
2. Magnetic backpainted glass markerboards.
3. Glazing sealants and accessories.
4. Architectural window films.
5. Glazing schedule.

- B. Related Requirements:

1. Section 08 41 23 "Fire Rated Aluminum Framed Systems" for glass in rated frames.
2. Section 08 41 24 "Fire Rated Full Vision Glass" for glass in rated doors.
3. Section 08 11 16 "Interior Aluminum Frames."

1.3 DEFINITIONS

- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.
- C. IBC: International Building Code.

1.4 COORDINATION

- A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 2. Review temporary protection requirements for glazing during and after installation.

1.6 SUBMITTALS

- A. Product Data: For each type of product.
- B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.
- C. Glazing Accessory Samples: For sealants and colored spacers, in 12-inch (300-mm) lengths. Install sealant Samples between two strips of material representative in color of the adjoining framing system.
- D. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.
- E. Qualification Data: For Installer, manufacturers of insulating-glass units with sputter-coated, low-E coatings, glass testing agency and sealant testing agency.
- F. Product Certificates: For glass.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.
- B. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.
- C. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
- D. Compatibility: Contractor shall confirm substrates and surfaces receiving glazing materials shall be compatible with one another and compatible with materials in place at the time of installation.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.

- B. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.
- C. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
 - 1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.

2.3 GLASS PRODUCTS, GENERAL

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."
 - 2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
 - 3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
- B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.
- D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

- A. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
 - B. Heat-Strengthened Float Glass: ASTM C 1048, Kind HS (heat strengthened), Type I, Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.
 1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
- 2.5 GLAZING SEALANTS
- A. General:
 1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
 3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
 - B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.6 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 1. AAMA 804.3 tape, where indicated.
 2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
- B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
 1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
 2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.
- C. Adhesive Glazing Tape and Foam Tapes: Preformed, adhesive tape for applications indicated.
 1. Basis-of-Design Product: VHB Tapes by 3M; multimedia.3m.com.

- a. Family: As recommended by manufacturer in writing for substrates and applications indicated.

2.7 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.8 ARCHITECTURAL WINDOW FILMS

- A. Basis-of-Design Product:
 - 1. Manufacturer: 3M
 - 2. Product: Fasara
 - 3. Color: SH2MAML 1524, Milky White (Milano)

2.9 FABRICATION OF GLAZING UNITS

- A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
 - 1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
 - a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.
- C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 2. Minimum required face and edge clearances.
 3. Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.2 PREPARATION
- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
 - B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.
- 3.3 GLAZING, GENERAL
- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
 - B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.
 - C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
 - D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
 - E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
 - F. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
 - G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
 - H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
 - I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until right before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- E. Install gaskets so they protrude past face of glazing stops.

3.6 MAGNETIC GLASS MARKERBOARD INSTALLATION

- A. Install magnetic marker glass per manufacturer's published recommendations for Z-clip cleat.

3.7 CLEANING AND PROTECTION

- A. Immediately after installation remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.
 - 1. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.
- C. Remove and replace glass that is damaged during construction period.
- D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.8 GLAZING SCHEDULE

Type	Description	Applications
GL-1	Fully tempered ¼ inch (6 mm) clear float glass.	Interior glazing unless indicated otherwise.
GL-2	Fully tempered ¼ inch (6mm) backpainted magnetic glass.	Glass marker boards.

END OF SECTION

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
- B. Related Requirements:
 - 1. Division 8 "Openings" Sections for coordinating opening requirements.
 - 2. Division 21 "Fire Suppression" Sections for fire sprinkler work to be coordinated with soffit framing and ceiling suspension systems.
 - 3. Division 23 "HVAC" Sections for ducts, diffusers and other mechanical work to be coordinated with soffit framing and ceiling suspension systems.
 - 4. Division 26 "Electrical" Sections for lighting work to be coordinated with soffit framing and ceiling suspension systems.
 - 5. Division 28 "Electrical Safety and Security" Sections for fire alarm work to be coordinated with soffit framing and ceiling suspension systems.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Certificates: For each type of code-compliance certification for studs and tracks.
- C. Evaluation Reports: For post-installed and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.4 COORDINATION

- A. Coordination of Wall Support With Building Structure and Other Building Systems: Where direct anchorage to building structure is impractical due to dimensional restriction, conflict with HVAC, plumbing, electrical or other considerations confirm attachment with Architect. Coordinate with HVAC, Plumbing, electrical fire protection and all other building systems to identify potential areas of conflict for ceiling anchorage and prepare engineered solution in advance of installation.
 - 1. Do not attach metal framing to plenum construction.

- B. Coordinate blocking requirements for all wall and soffit mounted items in other Sections. Installer shall provide blocking at all locations where items are attached to walls and soffits.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 FRAMING SYSTEMS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G40 (Z120) hot-dip galvanized unless otherwise indicated.
 - a. Provide G60 (Z180) where adjacent to and in the same cavity as exposed exterior framing, attached to concrete or CMU.
- C. Studs and Runners: ASTM C 645.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: As indicated on Drawings.
 - b. Depth: As indicated on Drawings.
- D. Slip-Type Head Joints: As indicated.
 - 1. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
- E. Cold-Rolled Channel Bridging: Steel, 0.053-inch (1.34-mm) minimum base-metal thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: As indicated on Drawings.

2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38 by 38 mm), 0.068-inch- (1.72-mm-) thick, galvanized steel.
- F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base-Metal Thickness: As indicated on Drawings.
 2. Depth: As indicated on Drawings.
- G. Cold-Rolled Furring Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
1. Depth: As indicated on Drawings.
 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.033 inch (0.8 mm).
 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.
- H. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (32 mm), wall attachment flange of 7/8 inch (22 mm), minimum uncoated-metal thickness of 0.018 inch (0.45 mm), and depth required to fit insulation thickness indicated.

2.3 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.
- B. Hanger Attachments to Concrete:
1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.
 2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by an independent testing agency.
- C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch (4.12 mm) in diameter.
- D. Flat Hangers: Steel sheet, 1 by 3/16 inch (25 by 5 mm) by length indicated.
- E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch (1.34 mm) and minimum 1/2-inch- (13-mm-) wide flanges.
1. Depth: As indicated on Drawings.

- F. Furring Channels (Furring Members):
 - 1. Cold-Rolled Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges, 3/4 inch (19 mm) deep.
 - 2. Steel Studs and Runners: ASTM C 645.
 - a. Minimum Base-Metal Thickness: As indicated on Drawings.
 - b. Depth: As indicated on Drawings.
 - 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22 mm) deep.
 - a. Minimum Base-Metal Thickness: As indicated on Drawings.
- G. Grid Suspension System for Gypsum Board Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.

1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 1. Single-Layer Application: 16 inches (406 mm) o.c. unless otherwise indicated.
 2. Multilayer Application: 16 inches (406 mm) o.c. unless otherwise indicated.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- E. Direct Furring:
 1. Screw to wood framing.

2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.
- F. Z-Furring Members:
1. Erect insulation, specified in Section 072100 "Thermal Insulation," vertically and hold in place with Z-furring members spaced 24 inches (610 mm) o.c.
 2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.
 3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (305 mm) from corner and cut insulation to fit.
- G. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.5 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
1. Hangers: 48 inches (1219 mm) o.c.
 2. Carrying Channels (Main Runners): 48 inches (1219 mm) o.c.
 3. Furring Channels (Furring Members): 16 inches (406 mm) o.c.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.

3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 5. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.
- E. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- F. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 09 22 16

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
 - 2. Acoustical sealant.
 - 3. Acoustic insulation.
 - 4. Finishing.
- B. Related Requirements:
 - 1. Section 06 10 00 "Rough Carpentry" for coordination with framing and blocking.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For the following products:
 - 1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.
- C. Shop Drawings: For casing beads, moldings, panel transitions and closure profiles.
 - 1. Include elevations showing typical and unique conditions, openings, reveals, panel edges, control and expansion joints and transitions.
 - 2. Show details of special conditions and Project specific details.
 - 3. Show details of wall closures and terminations, including acoustical wall closures.

1.4 QUALITY ASSURANCE

- A. Mockups: Build mockups of at least 100 sq. ft. (9 sq. m) in surface area to demonstrate aesthetic effects and to set quality standards for materials and execution.
 - 1. Build mockups for the following:
 - a. Level 4 of gypsum board finish indicated for use in exposed locations.
 - b. As associated with the wall paneling or applied finishes.
 - 2. Apply or install final decoration indicated, including painting and wallcoverings, on exposed surfaces for review of mockups.
 - 3. Simulate finished lighting conditions for review of mockups.

4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.
- B. Approved Manufacturers:
 1. American Gypsum; www.americangypsum.com.
 2. CertainTeed Corp.; www.certainteed.com.
 3. Georgia Pacific; www.gp.com.
 4. National Gypsum Co.; www.nationalgypsum.com.
 5. PABCO Gypsum; www.pabco gypsum.com.
 6. United States Gypsum Co. (USG); www.usg.com.
 7. Products listed in UL assemblies and required for rated-wall assemblies.

2.3 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard, General: Do not provide 1/2 inch (12.7 mm), regular type gypsum board at walls. All gypsum wall board material is to be type 'X' and 5/8" thickness unless otherwise indicated.
- B. Gypsum Board, Type X (GWB): ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch (15.9 mm).
 - 2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
 - 3. Applications: Provide at the following locations and others as indicated:
 - a. All walls scheduled for gypsum wall board.
 - b. Rated partitions.
 - c. Rated ceilings and soffits.
- C. Gypsum Ceiling Board: ASTM C 1396/C 1396M. Sag-resistant.
 - 1. Thickness: 1/2 inch (12.7 mm).
 - 2. Long Edges: Tapered.
 - 3. Applications: Provide at the following locations and others as indicated:
 - a. Ceiling and soffit finishes indicated, non-rated.
- D. Impact-Resistant Gypsum Board (IR-GWB): ASTM C 1396/C 1396M gypsum board, tested according to ASTM C 1629/C 1629M.
 - 1. Core: 5/8 inch (15.9 mm), Type X, as indicated in Drawings.
 - 2. Surface Abrasion: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
 - 3. Indentation: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
 - 4. Soft-Body Impact: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
 - 5. Hard-Body Impact: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements according to test in Annex A1.
 - 6. Long Edges: Tapered.
 - 7. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
- E. Moisture- (Mold-) Resistant Gypsum Board (GWB-MR): ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
 - 1. Core: 5/8 inch (15.9 mm), Type X, as indicated in Drawings.
 - 2. Long Edges: Tapered.
 - 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
 - 4. Application: Moisture- (mold-) resistant gypsum board shall be provided in lieu of regular gypsum wall board at all backsplash and surrounding areas of sinks,

lavatories, drinking fountains and mop sinks, to a distance not less than 18 inches from edge of sinks, lavatories and mop sinks.

5. Applications: Provide at the following locations and others as indicated:
 - a. Walls adjacent to water fountains and water coolers.
 - b. Walls within Janitor or Custodial Closets.
 - c. Walls adjacent to lavatories and sinks unless tile finish is indicated.

2.4 SPECIALTY GYPSUM BOARD

- A. Gypsum Board, Type C: ASTM C 1396/C 1396M. Manufactured to have increased fire-resistive capability.
 1. Thickness: As required by fire-resistance-rated assembly indicated on Drawings.
 2. Long Edges: Tapered.

2.5 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
 2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. L-Bead: L-shaped; exposed long flange receives joint compound.
 - d. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - e. Expansion (control) joint.
- B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
 1. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221 (ASTM B 221M), Alloy 6063-T5.
 2. Finish:
 - a. Where indicated to be field-painted: Corrosion-resistant primer compatible with joint compound and finish materials specified.
 - b. Where indicated to be factory-painted: Baked-enamel finish.
 - c. Where indicated to retain factory anodized finish: Class II anodic finish.
 3. Basis-of-Design Manufacturers:
 - a. Fry Reglet; www.fryreglet.com.
 - b. Milgo Bufkin; www.milgo-bufkin.com.
 4. Basis-of-Design Products:
 - a. ALUM Z-REVEAL: As selected by Architect, by Fry Reglet.

2.6 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Fiberglass mesh.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - 3. Fill Coat: For second coat, use setting-type, sandable topping or drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 - 5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound or high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.
- D. Joint Compound for Tile Backing Panels:
 - 1. Cementitious Backer Units: As recommended by backer unit manufacturer and compatible with tile applications. Do not use gypsum compound.

2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
 - 1. For panels attached to heavy gauge cold-formed metal framing specified in Section 05 40 00 "Cold-Formed Metal Framing" use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
 - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Acoustic Insulation:
 - 1. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 2. Thickness: Fill stud cavity; friction fit.
 - 3. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

4. Basis-of-Design Product: Sound Attenuation Batts by Owens Corning; www.owenscorning.com.
 - a. Thickness: As required to fill stud cavity in friction-fit application.
- E. Acoustical Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90. Coordinate with Section 07 92 00 "Joint Sealants" requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 2. Fit gypsum panels around ducts, pipes, and conduits.
 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.

- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
 - 1. Comply with manufacturer's installation instruction for installing acoustic gypsum board panels.
- J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Type X: All vertical surfaces, including where required for fire-resistance-rated assembly, unless otherwise indicated.
 - 2. Ceiling Type: Ceiling surfaces.
 - 3. Impact-Resistant Type: As indicated on Drawings.
 - 4. Moisture- (Mold-) Resistant Type: As indicated on Drawings.
 - 5. Type C: Where required for specific fire-resistance-rated assembly indicated.
 - 6. Glass-Mat Interior Type: As indicated on Drawings.
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
 - 3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
 - 4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches (400 mm) minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners.
 - a. Exception: Where required by Code for fire-resistance-rated assemblies, fasten base layers and face layers separately to supports with screws.

- D. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written instructions and temporarily brace or fasten gypsum panels until fastening adhesive has set.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
1. Locate trim profiles in approved shop drawing submittal.
- B. Control Joints: Install control joints at locations indicated on Drawings, or if not indicated, according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
1. Cornerbead: Use at outside corners unless otherwise indicated.
 2. LC-Bead: Use at exposed panel edges.
 3. L-Bead: Use where indicated.
 4. U-Bead: Use where indicated.
- D. Aluminum Trim: Install in locations indicated on Drawings.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare

gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 2: Panels that are substrate for tile and acoustical tile, and elsewhere as indicated on Drawings.
 - 3. Level 3: Panels that are to receive wall panels, fiber reinforced plastic finish, heavy wallcoverings, and elsewhere as indicated on Drawings.
 - 4. Level 4: At panel surfaces without wall coverings, and that will be exposed to view unless otherwise indicated, or panels that are to receive light-textured finishes before painting or light wallcoverings, and elsewhere as indicated on Drawings.
 - a. Primer and its application to surfaces are specified in Section 09 91 00 "Interior Painting."
 - 5. Level 5: At panel surfaces that will be exposed to view and will receive gloss and semigloss paint finishes, surfaces subject to wall-wash illumination, surfaces scheduled for applied wall graphics, and elsewhere as indicated on Drawings.
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions. Do not apply gypsum joint compound. Coordinate with Section 09 30 00 "Tiling" requirements.

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 09 51 00 - ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Acoustical panel ceilings (ACT-1).
2. Suspension systems.
3. Trim and accessories.

B. Related Requirements:

1. Section 21 05 10 "Bidder-Design Fire Suppression Systems" for fire sprinkler work to be coordinated with ceiling.
2. Section 23 05 10 "Bidder-Design HVAC Systems" Sections for ducts, diffusers and other mechanical work to be coordinated with ceiling.
3. Section 26 05 10 "Bidder-Design Electrical Systems" for lighting work to be coordinated with ceiling.
4. Section 28 31 10 "Bidder-Design Fire Detection and Alarm Systems" for fire alarm work to be coordinated with ceiling.

1.3 COORDINATION

- A. Coordinate layout and installation of acoustical ceilings and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Coordinate Drawings: Reflected ceiling plans drawn to scale and coordinating penetrations and ceiling-mounted items. Show the following:
 1. Ceiling suspension members.
 2. Method of attaching hangers to building structure.
 3. Ceiling-mounted items including but not limited to lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
 4. Edge and transition details to Work not in this section.
 5. Minimum Drawing Scale: 1/8 inch = 1 foot.
- C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.
 1. Acoustical Ceiling: Set of 6-inch- (150-mm-) square samples of each type, color, pattern, and texture.
 2. Exposed Suspension System Members, Moldings, and Trim: Set of 12 inch (300 mm) long Samples of each type, finish, and color.

3. Clips: Full-size of each type required.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

1.1 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Acoustical Ceiling Units: Full-size panels equal to 5 percent of quantity installed.
 2. Suspension-System Components: Quantity of each exposed component equal to 5 percent of quantity installed.
 3. Hold-Down Clips: Equal to 5 percent of quantity installed.
 4. Impact Clips: Equal to 5 percent of quantity installed.

1.2 QUALITY ASSURANCE

- A. Acoustical Testing Agency Qualifications: An independent testing laboratory, or an NVLAP-accredited laboratory, with the experience and capability to conduct the testing indicated. NVLAP-accredited laboratories must document accreditation, based on a "Certificate of Accreditation" and a "Scope of Accreditation" listing the test methods specified.
- B. Source Limitations:
 1. Acoustical Ceiling: Obtain each type through one source from a single manufacturer.
 2. Suspension System: Obtain each type through one source from a single manufacturer.
- C. Pre-installation Conference: Conduct conference at Project site.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.4 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Locate materials onsite at least 24 hours before beginning installation to allow materials to reach temperature and moisture content equilibrium.
- C. Maintain the following conditions in areas where acoustical materials are to be installed 24 hours before, during and after installation:
 1. Relative Humidity: 65 - 75%.
 2. Uniform Temperature: 55 - 70 degrees F (13 - 21 degrees C).

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Product Standards: Comply with the following:
1. ASTM C635/C635M, "Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels".
 2. ASTM C636/C636M, "Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings".
 3. ASTM E580/E580M, "Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions".
 4. Acoustical Standard: Provide manufacturer's standard panels of configuration indicated that comply with classifications as designated by types, patterns, acoustical ratings, and light reflectance, unless otherwise indicated. Comply with one of the following standards:
 - a. ASTM E 1264 "Standard Classification for Acoustical Ceiling Products."
 - 1) Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 400 mm away from test surface per ASTM E 795 "Standard Practice for Mounting Test Specimens During Sound Absorption Tests."
 - 2) Match appearance characteristics, including color and patterns of named product.
 5. Coating-Based Antimicrobial Treatment: Provide acoustical panels with face and back surfaces coated with antimicrobial treatment consisting of manufacturer's standard formulation with fungicide added to inhibit growth of mold and mildew and showing no mold or mildew growth when tested according to one of the following standards:
 - a. ASTM D 3273 "Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber."
- B. Fire-Test-Response Characteristics: Provide acoustical ceilings that comply with the following requirements:
1. Surface-Burning Characteristics: Provide acoustical panels with the following surface-burning characteristics complying with one of the following:
 - a. ASTM E 1264 "Standard Classification for Acoustical Ceiling Products" for Class A materials as determined by testing identical products per ASTM E 84 "Standard Test Method for Surface Burning Characteristics of Building Materials":
 - 1) Flame Spread Index: 25 or less.
 - 2) Smoke-Developed Index: 450 or less.

2.2 ACOUSTICAL PANEL CEILINGS

- A. Basis-of-Design Acoustical Ceiling, ACT-1: Match existing.
1. Size: 24 by 48 inches.
 2. Thickness: 3/4 inch.
 3. NRC: 0.65.
 4. Edge Detail: Tegular 15/16.
 5. Panel Color: White.
- B. Suspension System, Basis-of-Design: Match existing.

1. Color: White.
- C. Accessories: Trim profiles to match suspension system finish.
1. Provide trim at overhead doors, Axiom or similar.
 2. Provide molding no. 7884 at perimeter abutting walls.
 3. Provide fascia molding no.1816 or as selected by Architect, at open exposed panel edges.

2.3 METAL SUSPENSION SYSTEMS, GENERAL

- A. General: Provide manufacturer's suspension indicated above; compliant with requirements herein.
- B. Metal Suspension System Standard: Provide manufacturer's system indicated, direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements of the following standards:
1. ASTM C 635 "Standard Specification for the Manufacture, Performance and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings."
- C. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturer's standard factory-applied finish for type of system indicated.
1. High-Humidity Finish: Comply with:
 - a. ASTM C 635 requirements for "Coating Classification for Severe Environment Performance" where high-humidity finishes are indicated.
- D. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
1. Powder-actuated fasteners are not permitted.
 2. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according to ASTM E 488/E 488M or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.
 - a. Type: Postinstalled expansion anchors.
 - b. Corrosion Protection: Carbon-steel components zinc plated according to ASTM B 633, Class SC 1 (mild) service condition.
- E. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
1. 12 gauge minimum.
 2. Zinc-Coated Carbon-Steel Wire: ASTM A 641/A 641M, "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire", Class 1 zinc coating, soft temper.
 3. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, Table 1, "Direct Hung", or BS EN 13964:2004 "Suspended Ceilings-Requirements and Test Methods") will be less than yield stress of wire, but provide not less than 3.5-mm-diameter wire.
- F. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
- G. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.

- H. Angle Hangers: Angles with legs not less than 7/8 inch (22 mm) wide; formed with 0.04-inch (1-mm-) thick, galvanized steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation:
 - 1. ASTM A 653/A 653M "Standard specification for Sheet Steel, zinc-Coated (Galvanized) or Zinc Iron Alloy-Coated (Galvannealed) by the Hot Dip Process"; Z275.
- I. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.
- J. Seismic Clips: Manufacturer's standard seismic clips designed and spaced to secure acoustical panels in-place.
- K. Single Tee Adapter Clips: At off-module cross tee connections, provide manufacturer's standard single tee adapter clips designed and spaced to secure acoustical panels in-place.
- L. Hold-Down Clips: Where indicated, provide manufacturer's standard hold-down clips spaced 24 inches (610 mm) o.c. on all cross tees.
- M. Impact Clips: Where indicated, provide manufacturer's standard impact-clip system designed to absorb impact forces against acoustical panels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION, GENERAL

- A. Install suspended acoustical tile ceilings according to ASTM C 636/C 636M, seismic design requirements, and manufacturer's written instructions, and prescriptive installation indicated on Drawings.
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
 - 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts,

- eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8 inches (200 mm) from ends of each member.
 6. Finish suspension wires where indicated to be finished, and where exposed or partially exposed to view. Painted black or color as selected by Architect.
- C. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than (400 mm) o.c. and not more than (75 mm) from ends. Miter corners accurately and connect securely.
 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install acoustical ceiling tiles and panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
1. For reveal-edged panels on suspension system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
 2. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
 3. Install hold-down clips in areas indicated, in areas required by authorities having jurisdiction, and for fire-resistance ratings; space as recommended by panel manufacturer's written instructions, unless otherwise indicated.
 4. Protect lighting fixtures and air ducts to comply with requirements indicated for fire-resistance-rated assembly.
- 3.4 ERECTION TOLERANCES
- A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch (3 mm in 3.6 m), non-cumulative.
 - B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3 mm in 3.6 m), non-cumulative.
- 3.5 ADJUSTING
- A. Clean exposed surfaces of acoustical ceilings, including trim and edge moldings. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
 - B. Remove and replace ceiling tiles, panels and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

SECTION 09 65 00 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Resilient (rubber) base (RB-1).
 - 2. Resilient molding and installation accessories.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Submit shop drawings showing layout, finish colors, patterns and textures.
- C. Samples for Initial Selection: For moldings and accessories.
 - 1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches (230 mm) long, of each color required.
- D. Samples for Verification: For each type of product and finish indicated, in manufacturer's standard-size Samples but not less than 12 inches (300 mm) long, of each resilient product color, texture, and pattern required.
- E. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Maintenance data for installed products in accordance with Division 1 sections. Include methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and performance.
- B. Warranty: Warranty documents specified herein

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1.6 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide resilient accessories with a critical radiant flux classification of Class I, not less than 0.45 W/sq. cm, as determined by testing identical products per ASTM E 648 by a testing and inspecting agency acceptable to authorities having jurisdiction.

- B. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for resilient sheet flooring installation and seaming method indicated.
 - 1. Engage an installer who employs workers for this Project who are trained or certified by resilient sheet flooring manufacturer for installation techniques required.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F 10 deg C or more than 90 deg F (32 deg C).
- 1.8 PROJECT CONDITIONS
- A. Maintain temperatures within range recommended by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C), in spaces to receive resilient materials during the following time periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
 - B. After postinstallation period, maintain temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).
 - C. Install resilient products after other finishing operations, including painting, have been completed.
- 1.9 SEQUENCING AND SCHEDULING
- A. Finishing Operations: Install flooring after finishing operations, including painting and ceiling operations etc., have been completed.
- 1.10 WARRANTY
- A. Manufacturer's Materials Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
 - 1. Warranty Period: 1 year limited warranty commencing on Date of Substantial Completion. Notice of any defect must be made in writing to manufacturer within thirty (30) days after buyer learns of the defect.
 - B. Limited Wear Warranty: Manufacturer's limited wear warranty of five years for heavy commercial traffic.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

2.2 RESILIENT WALL BASE, RB-1

- A. Basis-of-Design Product, Rubber Base: Pinnacle Rubber by Roppe; roppe.com.
- B. Color: No. 110 "Brown."
- C. Style:
 - 1. Cove for hard-surface floor applications.
 - 2. Straight for carpet application.
- D. Minimum Thickness: 0.125 inch (3.2 mm).
- E. Height: 4 inches, or as selected by Architect.
- F. Lengths: Cut lengths 48 inches (1200 mm) long or coils in manufacturer's standard length.
- G. Outside Corners: Premolded.
- H. Inside Corners: Premolded.
- I. Surface: Smooth.

2.3 RESILIENT MOLDING ACCESSORY

- A. Description: Carpet edge for glue-down applications; reducer strip for resilient floor covering; joiner for tile and carpet; transition strips.
- B. Material: Rubber.
- C. Profile and Dimensions: As indicated.

2.4 THRESHOLD

- A. Description: Rubber door threshold.
- B. Material: Rubber
- C. Manufacturer: Roppe
- D. Product: #33 Full Thresdhold
- E. Color: TBD.

2.5 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic cement based formulation provided or approved by resilient product manufacturers for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Cove Base Adhesives: 50 g/L.
 - b. Rubber Floor Adhesives: 60 g/L.

- C. Seamless-Installation Accessories:
 - 1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.
 - a. Colors: Match flooring, or as selected by Architect in Submittals.
- D. Polish: Provide protective, liquid floor-polish products recommended by flooring manufacturer.
- E. Primer: As recommended by flooring and accessory manufacturer for substrate indicated.
- F. Sealant: As recommended by resilient manufacturer for application indicated. Comply with Section 07 92 00 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances, moisture content, and other conditions affecting performance.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with floor covering adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 4. Moisture Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor coverings until they are same temperature as space where they are to be installed.
 - 1. Move floor coverings and installation materials into spaces where they will be installed at least 72 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation.

3.3 INSTALLATION, GENERAL

- A. Comply with manufacturer's written instructions for installing floor coverings and products listed.
- B. Install underlayment following underlayment manufacturer's written instructions.
- C. Unroll resilient sheet flooring and allow it to stabilize before cutting and fitting.
- D. Lay out resilient sheet flooring as follows:
 - 1. Maintain uniformity of flooring direction.
 - 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches (152 mm) away from parallel joints in flooring substrates.
 - 3. Match edges of flooring for color shading at seams.
 - 4. Avoid cross seams.
- E. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
- F. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
- G. Scribe and cut floor coverings to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.
- H. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
- I. Maintain reference markers, holes, or openings that are in place or marked for future cutting by repeating on floor coverings as marked on subfloor. Use chalk or other nonpermanent marking device.
- J. Install floor coverings on covers for telephone and electrical ducts and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of floor covering installed on covers and adjoining floor covering. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
- K. Adhere floor coverings to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.
- L. Seamless Installation:
 - 1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and heat weld with welding bead to permanently fuse sections into a seamless flooring. Prepare, weld, and finish seams to produce surfaces flush with adjoining flooring surfaces.

3.4 RESILIENT WALL BASE INSTALLATION

- A. Apply wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- B. Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.

- C. Install continuous sealant bead at toe of coved base at hard surfaces.
- D. Install continuous sealant to fill gap at bottom of wall assemblies where gaps occur at all base locations.
- E. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- F. Do not stretch wall base during installation.
- G. On masonry surfaces or other similar irregular substrates, fill voids along top edge of wall base with manufacturer's recommended adhesive filler material.
- H. Premolded Corners: Install premolded corners before installing straight pieces.
- I. Job-Formed Corners: Where approved by Architect.
 - 1. Outside Corners: Use straight pieces of maximum lengths possible. Form without producing discoloration (whitening) at bends. Shave back of base at points where bends occur and remove strips perpendicular to length of base that are only deep enough to produce a snug fit without removing more than half the wall base thickness.
 - 2. Inside Corners: Use straight pieces of maximum lengths possible. Form by cutting an inverted V-shaped notch in toe of wall base at the point where corner is formed. Shave back of base where necessary to produce a snug fit to substrate.

3.5 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing accessories.
- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor coverings that would otherwise be exposed.

3.6 CLEANING AND PROTECTION

- A. Perform the following operations immediately after completing resilient product installation:
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Damp-mop surfaces to remove marks and soil.
 - a. Do not wash surfaces until after time period recommended by manufacturer.
- B. Protect resilient products from marks, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.
- C. Replace damaged or installed units and accessories not complying with requirements.

END OF SECTION

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes modular carpet tile (CPT-#).
- B. Related Requirements:
 - 1. Section 09 65 00 "Resilient Flooring and Accessories" for resilient wall base and accessories installed with carpet tile.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to carpet tile installation including, but not limited to, the following:
 - a. Review delivery, storage, and handling procedures.
 - b. Review ambient conditions and ventilation procedures.
 - c. Review subfloor preparation procedures.

1.4 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
 - 2. Include manufacturer's written installation recommendations for each type of substrate.
- B. Shop Drawings: For carpet tile installation, plans showing the following:
 - 1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
 - 2. Carpet tile type, color, and dye lot.
 - 3. Type of subfloor.
 - 4. Type of installation.
 - 5. Pattern of installation.
 - 6. Pattern type, location, and direction.
 - 7. Pile direction.
 - 8. Type, color, and location of insets and borders.

9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.
- C. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 1. Carpet Tile: Full-size Sample.
 2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.
- D. Samples for Initial Selection: For each type of carpet tile.
 1. Include Samples of exposed edge, transition, and other accessory stripping involving color or finish selection.
- E. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 1. Carpet Tile: Full-size Sample.
 2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.
- F. Product Schedule: For carpet tile. Use same designations indicated on Drawings.
- G. Sustainable Product Certification:
 1. Provide ANSI/NSF 140 certification for carpet products.
 2. Provide Carpet and Rug Institute Green Label Plus certification for carpet products
- H. Qualification Data: For Installer.
- I. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.
- J. Sample Warranty: For special warranty.
- K. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.
- L. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the [Commercial II] [Master II] <Insert description> certification level.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Build mockups at locations and in sizes shown on Drawings.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI's "CRI Carpet Installation Standard."

1.7 FIELD CONDITIONS

- A. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.8 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, the following:
 - a. More than 10 percent edge raveling, snags, and runs.
 - b. Dimensional instability.
 - c. Excess static discharge.
 - d. Loss of tuft-bind strength.
 - e. Loss of face fiber.
 - f. Delamination.
 - 3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: Patcraft; www.patcraft.com.

2.2 CARPET TILE, CPT-1

- A. Basis-of-Design Product:
 - 1. Manufacturer: Patcraft.
 - 2. Collection: Construct
 - 3. Style: Studio Modular Z6475
 - 4. Color: Laundered Sheets 00327
 - 5. Size: 24" x 24".
 - 6. Installation: Ashlar pattern.
 - 7. Contact:
 - a. Tom Conway
 - b. Email: tom.conway@patcraft.com
 - c. Company: Patcraft Oregon
 - d. Phone: 503 – 307 – 4592

2.3 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and are recommended by carpet tile manufacturer for releasable installation.
- C. Metal Edge/Transition Strips: Extruded aluminum with [mill] <Insert finish> finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.
- B. Examine carpet tile for type, color, pattern, and potential defects.
- C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.
 - 1. Moisture Testing: Perform tests so that each test area does not exceed [200 sq. ft. (18.6 sq. m)] [1000 sq. ft. (304.8 sq. m)] <Insert area>, and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of [3 lb

- of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m)] <Insert emission> in 24 hours.
- b. Relative Humidity Test: Using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum [75] <Insert number> percent relative humidity level measurement.
 - c. Perform additional moisture tests recommended in writing by adhesive and carpet tile manufacturers. Proceed with installation only after substrates pass testing.
- D. Wood Subfloors: Verify the following:
- 1. Underlayment over subfloor complies with requirements specified in Section 061600 "Sheathing."
 - 2. Underlayment surface is free of irregularities and substances that may interfere with adhesive bond or show through surface.
- E. Metal Subfloors: Verify the following:
- 1. Underlayment surface is free of irregularities and substances that may interfere with adhesive bond or show through surface.
- F. Painted Subfloors: Perform bond test recommended in writing by adhesive manufacturer.
- 1. Access Flooring Systems: Verify the following:
 - 2. Access floor substrate is compatible with carpet tile and adhesive if any.
 - 3. Underlayment surface is flat, smooth, evenly planed, tightly jointed, and free of irregularities, gaps greater than [1/8 inch (3 mm)] <Insert dimension>, protrusions more than 1/32 inch (0.8 mm), and substances that may interfere with adhesive bond or show through surface.
- G. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.2 PREPARATION
- A. General: Comply with CRI's "Carpet Installation Standards" and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.
 - B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm) unless more stringent requirements are required by manufacturer's written instructions.
 - C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.
 - D. Metal Substrates: Clean grease, oil, soil and rust, and prime if recommended in writing by adhesive manufacturer. Rough sand painted metal surfaces and remove loose paint. Sand aluminum surfaces, to remove metal oxides, immediately before applying adhesive.

- E. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

- A. General: Comply with CRI's "CRI Carpet Installation Standard," Section 18, "Modular Carpet" and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: [As recommended in writing by carpet tile manufacturer] [Glue down; install every tile with full-spread, releasable, pressure-sensitive adhesive] [Partial glue down; install periodic tiles with releasable, pressure-sensitive adhesive] [Free lay; install carpet tiles without adhesive].
- C. Maintain dye-lot integrity. Do not mix dye lots in same area.
- D. Maintain pile-direction patterns [indicated on Drawings] [recommended in writing by carpet tile manufacturer].
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.
- I. Access Flooring: Stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI's "Carpet Installation Standard," Section 20, "Protecting Indoor Installations."
- C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Surface preparation and field painting of exposed items and surfaces on the following substrates:
 - a. Interior Substrates:
 - 1) Gypsum board.
 - b. Finish and color schedules for painted surfaces (PT-#).

- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.

1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.

- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork.
 - b. Acoustical wall panels.
 - c. Finished mechanical and electrical equipment.
 - d. Light fixtures.
2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Foundation spaces.
 - b. Furred areas.
 - c. Ceiling plenums.
 - d. Utility tunnels.
 - e. Pipe spaces.
 - f. Duct shafts.
3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper and copper alloys.
 - e. Bronze and brass.

4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- D. Products and materials in this Section have been selected for indoor chemical and pollutant source control and/ or low-VOC emitting characteristics.

1.3 DEFINITIONS

- A. Volatile Organic Compounds (VOCs): Compounds as defined by the U.S. Environmental Protection Agency (EPA) in 40 CFR § 51.100 (s), (1).
- B. Anti-Corrosive Paints: Coatings formulated and recommended for use in preventing the corrosion of ferrous metal substrates.

1.4 SEQUENCING AND SCHEDULING

- A. Perform maintenance repainting in the following sequence, which includes work specified in this and other Sections:
 1. Dismantle existing surface-mounted objects and hardware except items indicated to remain in place. Tag items with location identification and protect.
 2. Verify that temporary protections have been installed.
 3. Examine condition of surfaces to be painted.
 4. Remove existing paint to the degree required for each substrate and surface condition of existing paint.
 5. Apply paint system.
 6. Reinstall dismantled surface-mounted objects and hardware unless otherwise indicated.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
- C. Product List: For each product indicated, include the following:
 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.6 MAINTENANCE MATERIALS SUBMITTALS

- A. Furnish extra materials, from the same product run,] that match products installed and that are packaged with protective covering for storage and identified with labels describing contents
 1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.7 QUALITY ASSURANCE

- A. All materials, preparation and painting Work shall comply with the requirements of the latest edition of the Architectural Painting Specification Manual by the Master Painters Institute (MPI).
 - 1. All paint manufacturers and products shall be listed under the Approved Product List section of the MPI Painting Manual.
- B. Color Matching: Custom computer-match paint colors to colors scheduled.

1.8 FIELD CONDITIONS

- A. Interior:
 - 1. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
 - 2. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. All interior paint systems shall be institutional, low-odor, low- or zero-VOC.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include:
 - 1. Miller Paint: Evolution and Premium series.
 - 2. Sherwin-Williams: Duration, SuperPaint or Emerald Series
 - 3. Benjamin Moore: Aura, Advance and Natura series.
 - 4. Rust-Oleum.

2.2 PAINT MATERIALS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards, including gloss levels, and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- D. Chemical Components of Interior Paints and Coatings: Provide products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions.
 - 1. The following chemicals shall not be used as an ingredient in any of the paints or coatings applied indoors and on-site:
 - a. Aromatic Compounds: The product must contain no more than 1.0% by weight of the sum total of aromatic compounds.

- b. Halomethanes: Methylene Chloride.
 - c. Chlorinated Ethanes: 1,1,1-trichloroethane.
 - d. Aromatic Solvents: Benzene, Toluene (methylbenzene), Ethylbenzene.
 - e. Chlorinated Ethylenes: Vinyl Chloride.
 - f. Polynuclear Aromatics: Naphthalene.
 - g. Chlorobenzenes: 1,2-dichlorobenzene.
 - h. Phthalate Esters: di (2-ethylhexyl) phthalate, butyl benzyl phthalate, di-n-butyl phthalate, di-n-octyl phthalate, diethyl phthalate, dimethyl phthalate.
 - i. Miscellaneous Semi-Volatile Organics: Isophorone. Metals and their compounds: Antimony, Cadmium, Hexavalent Chromium, Lead, Mercury.
 - j. Preservatives (Anti-Fouling Agents): Formaldehyde.
 - k. Ketones: Methyl ethyl ketone, Methyl isobutyl Ketone.
 - l. Miscellaneous Volatile Organics: Acrolein, Acrylonitrile.
2. Volatile Organic Compounds: The volatile organic compound (VOC) concentrations (in grams per liter) of the paint or coating shall not exceed those listed below if the paint or coating is applied indoors, on-site. VOCs shall be tested in accordance with the U.S. Environmental Protection Agency (EPA) Test Method 24. The calculation of VOC shall exclude water, exempt solvents, and tinting color added at the point of sale.
- a. Flat Interior Coatings: 50 g/L.
 - b. Non-Flat Interior Coatings: 150 g/L.
 - c. Gloss Anti-Corrosive Interior Coatings: 250 g/L.
 - d. Semi-Gloss Anti-Corrosive Interior Coatings: 250 g/L.
 - e. Flat Anti-Corrosive Interior Coatings: 250 g/L.
 - f. Floor Coatings: 250 g/L.
 - g. Flow Coatings: 420 g/L.
 - h. Pre-Treatment Wash Primers Coatings: 420 g/L.
 - i. Sanding Sealers (Non-Lacquer): 350 g/L.
 - j. Specialty Primers, Sealers, and Undercoats: 350 g/L.
3. Transition Coat: Paint manufacturer's recommended coating for use where a residual existing coating is incompatible with the paint system.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Concrete: 12 percent.
 2. Wood: 15 percent.
 3. Gypsum Board: 12 percent.
 4. Plaster: 12 percent.
- C. Interior Substrates:
 1. Gypsum Board: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

- E. Alkalinity: Do not begin application of coatings unless surface alkalinity is within range recommended in writing by paint manufacturer. Conduct alkali testing with litmus paper on exposed plaster, cementitious, and masonry surfaces.
- F. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATORY CLEANING

- A. General: Use the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.
- B. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.

3.3 SUBSTRATE REPAIR

- A. General: Repair substrate surface defects that are inconsistent with the surface appearance of adjacent materials and finishes.
- B. Gypsum-Plaster and Gypsum-Board Substrates:
 - 1. Repair defects including dents and chips more than 1/16 inch in size and where directed by Architect and Owner, and all holes and cracks by filling with gypsum-plaster patching compound and sanding smooth. Remove protruding fasteners.
 - 2. Rout out surface cracks to remove loose, unsound material; fill with patching compound and sand smooth.
 - a. Finish patch to match adjacent surfaces with no visible transition. Telegraphing patching through finish coats is not acceptable.

3.4 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated, and with procedures specified in PDCA P4 for inspection and acceptance of surfaces to be painted.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection where present
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 3.
- E. Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
 2. Sand surfaces that will be exposed to view, and dust off.
 3. Prime edges, ends, faces, undersides, and backsides of wood immediately upon delivery.
 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 5. Reprime over areas with fillers extending approximately 1-inch beyond filler area for overcoat adhesion.
- 3.5 REPAINTING, GENERAL
- A. Comply with manufacturers' written instructions for application methods unless otherwise indicated in this Section.
- B. Prepare surfaces to be painted according to manufacturer's written instructions for each substrate condition.
- C. Apply a transition coat over incompatible existing coatings.
- D. Blending Painted Surfaces: When painting new substrates patched into existing surfaces or touching up missing or damaged finishes, apply coating system specified for the specific substrate. Apply final finish coat over entire surface from edge to edge and corner to corner.
- E. Maintenance Repainting Appearance Standard: Completed work is to have a uniform appearance as viewed by Architect from building interior at 5 feet (1.5 m) away from painted surface.
- F. Execution of the Work: In repainting surfaces, disturb them as minimally as possible and as follows:
1. Remove failed coatings and corrosion and repaint.
 2. Verify that substrate surface conditions are suitable for repainting.
 3. Allow other trades to repair items in place before repainting.
- G. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use gentle methods, such as scraping and lightly hand sanding, that will not abrade softer substrates, reducing clarity of detail.
- H. Heat Processes: Do not use torches, heat guns, or heat plates.
- 3.6 APPLICATION
- A. Material Preparation:
1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using
- B. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
1. Use applicators and techniques suited for paint and substrate indicated.

2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 3. Paint both sides and edges of doors and entire exposed surface of door frames.
 4. Paint entire exposed surface of window frames and sashes, where scheduled for painting.
 5. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 6. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 7. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- C. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- D. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- E. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- F. Sand lightly between each succeeding enamel or varnish coats.
- G. Painting Exposed Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following interior work where exposed in occupied spaces visible to the public:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - h. Other items as directed by Architect.
 2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces, with a nonspecular black paint or color selected by Architect.
- 3.7 CLEANING AND PROTECTING
- A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
- B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

- C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1

3.8 INTERIOR PAINT SYTEM SCHEDULE

- A. Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. System: As recommended by paint manufacturer and compatible with substrate.
- B. Interior Steel Substrates: For factory primed or existing items scheduled to be repainted, including doors and frames (factory primed), access Doors, fire cabinets, and metal casework:
 - 1. Primer: Transition coat where required for adhesion or compatibility.
 - 2. Finish Coats: Two coats, alkyd enamel finish.
- C. Gypsum Board Substrates:
 - 1. Latex System:
 - a. Prime Coat: Latex, interior.
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior.
 - 2. Sheen:
 - a. Walls: Satin.
 - b. Ceiling: Satin.
- D. Wood Substrates:
 - 1. Latex over Latex Primer System:
 - a. Prime Coat: Primer, latex, for interior wood.
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior.
 - 2. Sheen: Semi-gloss.

3.9 COLOR SCHEDULE

- A. Coordinate finish colors with systems indicated in other Sections.
- B. Manufacturer below is for color only. Provide color match where different paint manufacturer is used.
- C. Where surfaces are scheduled for primer only, provide primer indicated for substrate in systems listed above.
- D. See systems for sheen.

PT-#	Basis-of- Design Manufacturer	Color
PT-1	Sherwin Williams	"Colony Bluff" SW 7723
PT-2	Sherwin Williams	"March Wind" SW 7668
PT-3	Sherwin Williams	"Greenland" SW 6439

PT-4	Sherwin Williams	"Needlepoint Navy" SW 0032
PT-5	Sherwin Williams	"Extra White" SW 7006
PT-6	Sherwin Williams	"Acier" SW 9170

END OF SECTION

SECTION 10 11 01 - VISUAL DISPLAY BOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Visual display board assemblies.
 - 2. Display rails.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.
 - 2. Include electrical characteristics for motorized units.
- B. LEED Submittals:
 - 1. Product Data for Credit IEQ 4.1: For adhesives, documentation including printed statement of VOC content.
 - 2. Laboratory Test Reports for Credit IEQ 4.1: For adhesives, documentation indicating that products comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
 - 3. Product Data for Credit IEQ 4.4: For composite wood products, documentation indicating that the product contains no urea formaldehyde.
 - 4. Laboratory Test Reports for Credit IEQ 4.4: For composite wood products used in visual display units, documentation indicating that products comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

- C. Shop Drawings: For visual display units.
 - 1. Include plans, elevations, sections, details, and attachment to other work.
 - 2. Show locations of panel joints.
 - 3. Show locations and layout of special-purpose graphics.
 - 4. Include sections of typical trim members.
 - 5. Include wiring diagrams for power and control wiring.

- D. Samples for Initial Selection: For each type of visual display unit indicated, for units with factory-applied color finishes, and as follows:
 - 1. Samples of facings for each visual display panel type, indicating color and texture.
 - 2. Fabric swatches of fabric facings for tackboards.
 - 3. Actual factory-finish color samples, applied to substrate.
 - 4. Include accessory Samples to verify color selected.

- E. Samples: For each type of visual display unit indicated.
 - 1. Visual Display Panel: Not less than 8-1/2 by 11 inches (215 by 280 mm), with facing, core, and backing indicated for final Work. Include one panel for each type, color, and texture required.
 - 2. Trim: 6-inch- (150-mm-) long sections of each trim profile.
 - 3. Display Rail: 6-inch- (150-mm-) long section of each type.
 - 4. Support System: 6-inch- (152-mm-) long sections.
 - 5. Accessories: Full-size Sample of each type of accessory.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for surface-burning characteristics of tackboards.
- C. Sample Warranties: For special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For visual display units to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Verify actual dimensions of construction contiguous with visual display units by field measurements before fabrication.
 - 1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.10 WARRANTY

- A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Surfaces lose original writing and erasing qualities.
 - b. Surfaces exhibit crazing, cracking, or flaking.
 - 2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of visual display unit from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
 2. Smoke-Developed Index: 50 or less.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 MARKERBOARD PANELS

- A. Porcelain-Enamel Markerboard Panels: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction, consisting of moisture-barrier backing, core material, and porcelain-enamel face sheet with low-gloss finish. Laminate panels under heat and pressure with manufacturer's standard, flexible waterproof adhesive.
1. Basis of design: Claridge Products and Equipment, Inc.
 2. Finish: Porcelain enamel on steel.
 3. Color: Manufacturer's standard white.
 4. Face Sheet Thickness: 0.021 inch (0.53 mm) uncoated base metal thickness.
 5. Core: Medium-Density Fiberboard 7/16 inch (11 mm) thick; with manufacturer's standard moisture-barrier backing.
 6. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.

2.4 MATERIALS

- A. Porcelain-Enamel Face Sheet: PEI-1002, with face sheet manufacturer's standard two- or three-coat process.
- B. Medium-Density Fiberboard: ANSI A208.2. Made with binder containing no urea formaldehyde.
- C. Fiberboard: ASTM C 208 cellulosic fiber insulating board.
- D. Extruded Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063.
- E. Adhesives for Field Application: Mildew-resistant, nonstaining adhesive for use with specific type of panels, sheets, or assemblies; and for substrate application; as recommended in writing by visual display unit manufacturer.
1. Adhesives shall have a VOC content of 50 g/L or less.
 2. Adhesives shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.5 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
- B. Baked-Enamel or Powder-Coat Finish: AAMA 2603, except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.
- B. Examine roughing-in for electrical power systems to verify actual locations of connections before installation of motorized, sliding visual display units.
- C. Examine walls and partitions for proper preparation and backing for visual display units.
- D. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.
- C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.

3.3 INSTALLATION

- A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

3.4 CLEANING AND PROTECTION

- A. Clean visual display units according to manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.
- C. Cover and protect visual display units after installation and cleaning.

END OF SECTION 101100

SECTION 10 14 00 - SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Room-identification signs.
 - 2. Interior graphic signs.
 - 3. Emergency evacuation maps.

1.3 SUBMITTALS

- A. Product Data.
- B. Shop Drawings.
- C. Samples for Verification.
- D. Sign Schedule.
- E. Qualification Data.
- F. Sample Warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications.

1.6 WARRANTY

- A. Special Warranty: Manufacturer Warranty Period of Five years.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with all City requirements.
 - 1. All signage shall be vandal resistant.
 - 2. Verify acceptable fabricators and vendors with City prior to award.
- B. Accessibility Standard: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for signs.

2.2 SIGNS

- A. Graphic Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles.
- B. Room-Identification Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles.

2.3 DIMENSIONAL SIGNAGE

- A. Cutout Characters: Graphic Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles.
 - 1. Character Material: Sheet acrylic
 - 2. Character Height:
 - 3. Thickness: 0.5 inch
 - 4. Finishes:
 - 5. Integral Acrylic Color: Standard Sign White
 - 6. Mounting: Manufacturer approved adhesive or standard high-bond, foam core tape.
 - 7. Typeface: Per City of Wilsonville Branding Style Guide.
- B. Dimensional Character Materials:
 - 1. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

2.4 PANEL-SIGN MATERIALS

- A. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- C. Steel Materials:
 - 1. Metallic-Coated Steel Sheet: ASTM A 653, G90 coating, either commercial or forming steel.
 - 2. Steel Sheet: Uncoated, cold-rolled, ASTM A 1008, commercial steel, Type B, exposed electrolytic zinc-coated, ASTM A 879, Coating Designation 08Z, with steel-sheet substrate according to ASTM A 1008, commercial steel, exposed].
 - 3. Steel Members Fabricated from Plate or Bar Stock: ASTM A 529 or ASTM A 572, 42,000-psi minimum yield strength.
- D. Stainless-Steel Sheet: ASTM A 240 or ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- E. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).
- F. Polycarbonate Sheet: ASTM C 1349, Appendix X1, Type II (coated, mar-resistant, UV-stabilized polycarbonate), with coating on both sides.

- G. Fiberglass Sheet: Multiple laminations of glass-fiber-reinforced polyester resin with UV-light stable, colorfast, nonfading, weather- and stain-resistant, colored polyester gel coat, and with manufacturer's standard finish.
- H. PVC Sheet: Manufacturer's standard, UV-light stable, PVC plastic.
- I. Plastic-Laminate Sheet: NEMA LD 3, general-purpose HGS grade, 0.048-inch nominal thickness.
- J. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form characters or images as indicated and suitable for exterior applications.
- K. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.5 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined.
- B. Adhesive: As recommended by sign manufacturer.
- C. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, with adhesive on both sides.
- D. Magnetic Tape: Manufacturer's standard magnetic tape with adhesive on one side.
- E. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.6 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
- B. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into panel surface indicated to produce precisely formed copy, incised to uniform depth.
- C. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.
- D. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.
- E. Signs with Changeable Message Capability: Fabricate signs to allow insertion of changeable messages as follows:
- F. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

2.7 GENERAL FINISH REQUIREMENTS

- A. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

- B. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.8 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.
- B. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

2.9 METALLIC-COATED STEEL FINISHES

- A. Factory Prime Finish: After cleaning and pretreating, apply an air-dried primer compatible with the organic coating to be applied over it.
- B. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.

2.10 STEEL FINISHES

- A. Factory Prime Finish: After surface preparation and pretreatment, apply manufacturer's standard, fast-curing, lead- and chromate-free, universal primer.
- B. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.

2.11 STAINLESS-STEEL FINISHES

- A. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
 - 1. Directional Satin Finish: No. 4.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
- B. Room-Identification Signs and Other Accessible Signage: Install in locations on walls as indicated and according to accessibility standard.

END OF SECTION

SECTION 12 24 13 – ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Manually operated, horizontal louver blinds at interior window locations as indicated.
- B. Related Requirements:
 - 1. Section 05 40 00 "Cold-Formed Metal Framing" for coordinating blocking.
 - 2. Section 079200 "Joint Sealants" for sealing the perimeters of installation accessories for light-blocking shades with a sealant.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions for blinds.
- B. Shop Drawings: Submit shop drawings catalogs and cuts of all blind work. Shop drawings shall show the design and dimensions, and clearly indicate in large scale the construction of various components, methods of assembly, thickness of materials, finishes, reinforcements, and all other pertinent data and information.
 - 1. Submit shop drawings with jointing and special details in full scale.
 - 2. Show complete information concerning fabrication, materials, finish, attachment, hardware, and other information.
 - 3. Any variations from the drawings must be clearly noted as a variation from the requirements.
- C. Samples: Submit samples of each color and finish o

1.4 QUALITY ASSURANCE

- A. Provide units produced by one manufacturer for each type required, with complete standard assemblies including hardware accessory items, mounting brackets, and fastenings.
- B. All work shall be erected by skilled workmen, especially trained in this type of work by the manufacturer or his authorized representatives.
- C. Manufacturer's nameplates, or stamped or printed markings, shall not be exposed on any item of blinds or accessories provided.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roller shades in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.
- B. All delivered blinds shall match the final shop drawings and samples. Blinds which are marred, chipped or otherwise damaged shall be replaced.
- C. Special care shall be taken in the handling of the blinds to avoid their being either scratched or otherwise defaced during the course of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 MANUALLY OPERATED BLACK OUT ROLLER SHADES

- A. Match existing building standard. If there is no building standard use basis of design below or equivalent.
 - 1. Basis-of-Design Manufacturer: Mechoshade.
 - 2. Housing: Mecho/5 Manual Shade.
 - 3. Fascia: Standard pocket to fit shade.
 - 4. Finish: Clear Anodized Aluminum Finish.
 - 5. Accessories: Blackout channel in clear anodized aluminum finish.
- B. Fabric:
 - 1. Basis of Design Product: Equinox Blackout
 - 2. Series: 0100 – Opaque.
 - 3. Color: Graphite 0117.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install blind units to comply with manufacturer's instructions. Position units level, plumb, secure, and at proper height and location relative to adjoining window units and other related work. Securely anchor units with clips, brackets, and anchorages suited to type of substrate.
- B. Provide clearance between sash and blinds to permit unencumbered operation of sash hardware.
- C. Unless factor present, field set tilt and locking controls.
- D. Upon completion of installation and verification of blind operation, raise blinds to their uppermost position and replace factory provided plastic bagging over slats.
- E. Protect installed units to ensure their being in operation condition, without damage, blemishes, or indication of use at substantial completion of project. Correct nonconforming damaged units. Replace units that cannot be field corrected.
- F. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

END OF SECTION 12 21 15

SECTION 210510 - DELEGATED-DESIGN FIRE SUPPRESSION SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Fire suppression systems shall be provided by design-build subcontractor as follows:
 - 1. Fire Suppression Systems Contractor shall provide for and obtain all necessary permits and inspections as required from regulatory agencies.
 - 2. Fire Suppression Systems Contractor shall be the permit holder and shall be responsible for the proper design and installation of the mechanical systems for the entire renovated space.
 - 3. All Fire Suppression Systems work shall be Bidder design-build and shall comply with all governing code requirements and University requirements.

1.2 SUBMITTALS

- A. Fire Suppression Systems Contractor shall provide:
 - 1. Product data for all piping and devices.
 - 2. Shop drawings as required for construction. Architectural plans illustrate fixture locations only.
- B. At completion, provide the following:
 - 1. O&M manual for devices installed.
 - 2. The contractor shall submit as-built drawings as AutoCAD files to the Owner.

1.3 QUALITY ASSURANCE

- A. Fire Suppression Systems Contractor shall coordinate requirements with the intent of the Documents; Fire Suppression Systems Contractor shall perform calculations to verify piping is properly sized.
- B. Coordinate work with plumbing and mechanical work on the Project.
- C. Qualifications: Fire Suppression Systems designers and installers shall be training and certified for systems and equipment to be provided and installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide piping and fixtures of code-required materials and properly sized for services required.
- B. Provide devices to match existing building standard.

PART 3 - EXECUTION

3.1 GENERAL

- A. Conceal conduit and junction boxes to the fullest extent possible. Where conduit or junction boxes cannot be concealed, notify the Architect and coordinate locations to be as unobtrusive as possible.

END OF SECTION 210510

SECTION 220510 - DELEGATED-DESIGN PLUMBING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Plumbing systems shall be provided by design-build subcontractor as follows:
 - 1. Plumbing Systems Contractor shall provide for and obtain all necessary permits and inspections as required from regulatory agencies.
 - 2. Plumbing Systems Contractor shall be the permit holder and shall be responsible for the proper design and installation of the mechanical systems for the entire renovated space.
 - 3. All Plumbing Systems work shall be Bidder design-build and shall comply with all governing code requirements and University requirements.

1.2 SUBMITTALS

- A. Plumbing Systems Contractor shall provide:
 - 1. Product data for all piping, fixtures and devices.
 - 2. Shop drawings as required for construction. Architectural plans illustrate fixture locations only.
- B. At completion, provide the following:
 - 1. O&M manual for fixtures and devices installed.
 - 2. The contractor shall submit as-built drawings as AutoCAD files to the Owner.

1.3 QUALITY ASSURANCE

- A. Coordinate work with fire suppression and mechanical work on the Project.
- B. Plumbing Systems Contractor shall coordinate mounting requirements with the intent of the Documents; Plumbing Systems Contractor shall perform calculations to verify piping is properly sized.
- C. Qualifications: Plumbing Systems designers and installers shall be training and certified for systems and equipment to be provided and installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide piping and fixtures of code-required materials and properly sized for services required.
 - 1. All drain piping to be cast iron.
 - 2. Provide fixtures and devices to match existing building standard, except as follows:
 - a. Provide fixtures with water conservation ratings meeting code requirements.

PART 3 - EXECUTION

3.1 GENERAL

- A. Conceal all piping to the fullest extent possible.

END OF SECTION 220510

SECTION 230510 - DELEGATED-DESIGN HVAC SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. HVAC systems shall be provided by design-build subcontractor as follows:
 - 1. HVAC Systems Contractor shall provide for and obtain all necessary permits and inspections as required from regulatory agencies.
 - 2. HVAC Systems Contractor shall be the permit holder and shall be responsible for the proper design and installation of the mechanical systems for the entire renovated space.
 - 3. All HVAC Systems work shall be Bidder design-build and shall comply with all governing code requirements and University requirements.
- B. Related Sections:
 - 1. Section 220510 - Bidder-Design Plumbing Systems: For condensate line routing and other connections to plumbing systems.
 - 2. Section 260510 - Bidder-Design Electrical Systems: For connections to electrical systems.
 - 3. Section 283110 Bidder-Design Fire Detection and Alarm Systems: For connections of HVAC equipment to fire alarm systems to meet Code requirements.

1.2 SUBMITTALS

- A. HVAC Systems Contractor shall provide:
 - 1. Product data for all equipment and fixtures.
 - 2. Shop drawings as required for construction and trade coordination.
- B. At completion, provide the following:
 - 1. O&M manual for equipment and duct devices installed.
 - 2. The contractor shall submit as-built drawings as AutoCAD files to the Owner.

1.3 QUALITY ASSURANCE

- A. Coordinate work with fire suppression, electrical, and fire alarm work on the Project.
- B. Coordinate power and mounting requirements with the intent of the Documents; HVAC Systems Contractor shall perform calculations to verify cabling is properly sized.
- C. Qualifications: HVAC Systems designers and installers shall be training and certified for systems to be provided and installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide piping, ductwork and equipment of code-required materials and properly sized for services required.
 - 1. Provide equipment with UL ratings.
 - 2. Provide supply diffusers and return grilles to match existing building standard.
 - 3. Provide controls and thermostats to match existing building standards.
- B. Verify configuration of existing systems and evaluate and provide a solution to address temperature and control issues in Lobby 118 and Conference 108. At a minimum incorporate the following proposal solutions to the existing heating and cooling challenges.
 - 1. Reconfigure existing system so that the Front Desk is served by existing Terminal Unit TU1-5. Revise ductwork accordingly. Disconnect Front Desk diffuser and replace ductwork from TU1-4.
 - 2. Maintain existing or corresponding thermostat for TU1-5, verify operation and location with Architect.
 - 3. Confirm two Lobby 118 diffusers east of Front Desk are configured for 3-way throw away from the Front Desk.
 - 4. Revise terminal heating controls from 1-stage (on-off) to fully modulating SCR.
 - 5. Change the VAV minimum set point from 50% to 20% to reduce the quantity of primary air that is continuously supplied to the space when the space is in heating mode to reduce the potential of over cooling and reduce the cycling between heating the cooling.
 - 6. Reconfigure ductwork between Office 107 and new Conference 108 to track from Office 107 to Hall 135 to new Conference 108 to reduce the potential impact of sound migration from the office to the conference or vice versa.

PART 3 - EXECUTION

3.1 GENERAL

- 1.1 Conceal controls conduit and junction boxes to the fullest extent possible. Where conduit or junction boxes cannot be concealed, notify the Architect and coordinate locations to be as unobtrusive as possible.

END OF SECTION 230510

SECTION 260510 - DELEGATED-DESIGN ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Electrical systems shall be provided by design-build subcontractor as follows:
1. Electrical Systems Contractor shall provide for and obtain all necessary permits and inspections as required from regulatory agencies.
 2. Electrical Systems Contractor shall be the permit holder and shall be responsible for the proper design and installation of the electrical and lighting systems for the entire renovated space.
 3. All Electrical Systems work shall be Bidder design-build and shall comply with all governing code requirements and University requirements.

1.2 SUBMITTALS

- A. Electrical Systems Contractor shall provide:
1. Shop drawings as required for construction and trade coordination. Architectural plans illustrate fixture, equipment, switch and outlet locations only.
 2. Electrical Systems Contractor shall provide product data for all equipment and fixtures.
- B. At completion, provide the following:
1. O&M manual for equipment and lighting installed.
 2. The contractor shall submit as-built drawings as AutoCAD files to the Owner.
 3. Identify circuits on index in existing and new panels as applicable when complete.

1.3 QUALITY ASSURANCE

- A. Coordinate and provide power for fire alarm, mechanical, security, audio/ visual and other equipment on the Project.
- B. Electrical Systems Contractor shall coordinate power and mounting requirements with the intent of the Documents; Electrical Systems Contractor shall perform calculations to verify cabling is properly sized.
- C. Qualifications: Electrical Systems designers and installers shall be training and certified for systems to be provided and installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide conduit, raceways, cabling and conductors of code-required materials and properly sized for the loads required.
1. All conductors shall be copper.
 2. Provide plenum-rated cabling were required by code.

3. Conduit and Raceways: Provide sealed conduit penetrations to the exterior to prevent moisture from the weather or condensation from entering the building.
 4. Provide identification labeling on cabling terminated at panels.
 5. Provide additional electrical backboards and panels as required.
- B. Electrical and Communication Devices:
1. Provide all devices to meet City of Wilsonville standards.
 2. Outlet devices and outlet jacks/ports and cover plates to match, where devices are in colored walls or wood panels provide black color.
- C. Lighting:
1. Provide lighting as indicated on Drawings, with UL ratings.

PART 3 - EXECUTION

3.1 GENERAL

- A. Conceal conduit and junction boxes to the fullest extent possible. Where conduit or junction boxes cannot be concealed, notify the Architect and coordinate locations to be as unobtrusive as possible.

END OF SECTION 260510

SECTION 270510 - DELEGATED-DESIGN DATA AND TELECOMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Data and telecommunications systems shall be provided by design-build subcontractor as follows:
 - 1. Data/ Telecommunications Systems Contractor shall provide for and obtain all necessary permits and inspections as required from regulatory agencies.
 - 2. Data/ Telecommunications Systems Contractor shall be the permit holder and shall be responsible for the proper design and installation of the data and telecommunications systems for the entire renovated space.
 - 3. All Data/ Telecommunications Systems work shall be Bidder design-build and shall comply with all governing code requirements and University requirements.

1.2 SUBMITTALS

- A. Data/ Telecommunications Systems Contractor shall provide:
 - 1. Product data for all equipment and cabling.
 - 2. Shop drawings as required for construction.
- B. At completion, provide the following:
 - 1. O&M manual for equipment and lighting installed.
 - 2. The contractor shall submit as-built drawings as AutoCAD files to the Owner.
 - 3. Identify circuits on index in existing and new panels as applicable when complete.

1.3 QUALITY ASSURANCE

- A. Data/ Telecommunications Systems Contractor shall coordinate power and mounting requirements with the intent of the Documents; Data/ Telecommunications Systems Contractor shall perform calculations to verify cabling is properly sized.
- B. Qualifications: Data/ Telecommunications Systems designers and installers shall be training and certified for systems to be provided and installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide conduit, raceways and cabling of industry-standard, state-of-the-art materials.
 - 1. Provide plenum-rated cabling where required by code.
 - 2. Provide identification labeling on cabling terminated at panels.
 - 3. Provide additional data and telecommunications backboards and panels as required.

PART 3 - EXECUTION

3.1 GENERAL

- A. Conceal conduit and junction boxes to the fullest extent possible. Where conduit or junction boxes cannot be concealed, notify the Architect and coordinate locations to be as unobtrusive as possible.

END OF SECTION 270510

DELEGATED-DESIGN DATA AND TELECOMMUNICATIONS SYSTEMS SECTION 270510 - 2

SECTION 283110 - DELEGATED-DESIGN FIRE DETECTION AND ALARM

PART 1 - GENERAL

1.1 SUMMARY

- A. Expansion and tie-into existing fire detection and alarm system.
- B. Fire detection and alarm system shall be provided by bidder-design subcontractor as follows:
 - 1. Fire Detection and Alarm Contractor shall provide for and obtain all necessary permits and inspections as required from regulatory agencies.
 - 2. Fire Detection and Alarm Contractor shall be the permit holder and shall be responsible for the proper design, operation and installation of the fire alarm system for the entire renovated space.
 - 3. All Fire Detection and Alarm work shall be Bidder design-build and shall comply with all governing code requirements and University requirements.

1.2 REFERENCE

- A. For information on the existing fire detection and alarm system, contact University project manager and Architect.

1.3 SUBMITTALS

- A. Fire Detection and Alarm Contractor shall provide:
 - 1. Shop drawings as required for construction.
 - 2. Product data for all equipment and fixtures.
- B. At completion, provide the following:
 - 1. O&M manual for Fire Detection and Alarm system.
 - 2. Fire Detection and Alarm system logbook shall be installed and/or updated.
 - 3. Contact ID Codes at Fire Alarm Central Station
 - 4. Start-up Configuration Utility Programming Guidelines
 - 5. Notifier Programming Guidelines
 - 6. Quality Assurance Checklist
 - 7. The contractor shall submit shop drawings as AutoCAD files to the Owner.
 - 8. Identify circuits on index in existing and new panels as applicable when complete.

1.4 QUALITY ASSURANCE

- A. Coordinate power and mounting requirements with the intent of the Documents; perform calculations to verify cable is properly sized.

- B. Qualifications: Fire Detection and Alarm system designers and installers shall be training and certified by the manufacturers of the equipment to be provided and installed.
- C. Fire Alarm Pre-Acceptance Test Requirements: Prior to calling for a witnessed acceptance test, all of the following conditions shall be met:
 - 1. All devices shall be tested prior to Fire Department test.
 - 2. The fire alarm communicator shall be connected to two active telephone lines and the detection system shall be on-line with the monitoring station.
 - 3. All of the appropriate permits and required paper work shall be signed and present, including shop drawings and cut sheets.
 - 4. Equipment: Canned smoke shall be available; appropriate tools shall be available to open the various circuits.
 - 5. Sufficient personnel from the permit holder's company shall be present to perform the test; one person is required to test devices and one person is required to reset; Radios shall be available for communication between the tester and the re-setter.
 - 6. All appropriate personnel and occupants in the building shall be notified that the fire alarm system will be tested.
 - 7. NO final inspections shall be performed prior to the completion of all construction including, including but not limited to: Painting, cleaning, carpeting, etc.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide as required by code: Circuit breakers, switches, service outlets, phone terminations and surge protection components inside the Fire Alarm Control Panel (FACP).
- B. Provide conduit, raceways, cabling and conductors of code-required material and properly sized for the loads required.
 - 1. Provide plenum-rated cabling were required by code.
 - 2. Provide red-jacketed cabling.
 - 3. Provide multi-tone horn/ strobe units.
 - 4. Conduit and Raceways: Provide sealed conduit penetrations to the exterior to prevent moisture from the weather or condensation from entering the building.
 - 5. Provide identification labeling on fire alarm equipment and cables.

PART 3 - EXECUTION

3.1 GENERAL

- A. Conceal conduit and junction boxes to the fullest extent possible. Where conduit or junction boxes cannot be concealed, notify the Architect and coordinate locations to be as unobtrusive as possible.

- B. Provide small auxiliary fire alarm panel above the FACP for installation of additional devices, e.g. surge protection devices, strobe synchronization modules, as required.
- C. Provide Fire Safety Disconnect Switch in FACP to allow maintenance personnel to isolate notification circuits and fire safety function controls during maintenance activities to avoid disrupting building occupants.
- D. Maintain any existing and provide new required tie-ins for HVAC equipment to be operated by the fire alarm system.
- E. Modification to Existing Fire Alarm System:
 - 1. Maintain Existing Fire Alarm System configuration control during fire alarm system modifications.
 - 2. Provide connection to building's existing FACP; Test connections through-out.
 - 3. All existing systems to be remodeled shall remove any and all detectors prior to the start of construction in areas affected; No installation of detectors prior to completion of construction and clean-up will be accepted.
- F. Provide duct, plenum and concealed location smoke detectors, fire/smoke dampers, and the associated equipment controls where required by code.
- G. Perform Fire Alarm Pre-Acceptance Test quality control review.

END OF SECTION 283110

-- This page intentionally left blank --

Appendix B – Certificates of Completion

-- This page intentionally left blank --



**CERTIFICATE OF COMPLETION
(FINAL ACCEPTANCE)**

Project: _____

Contractor: _____

Contract Signed: _____ Contract Expires: _____

Contract Completed: _____ Delinquent: _____

I, (We) hereby certify that all work has been performed and materials supplied in accordance with the plans, specifications, and Contract Documents for the above work, and that:

1. Not less than the prevailing rates of wages, as ascertained by the Contracting Agency, have been paid to laborers, workers, and mechanics employed on this work;
2. There have been no unauthorized substitutions or assignments of subcontractors; nor have any subcontracts been entered into without the names of the subcontractors having been submitted to the Owner prior to the start of such subcontracted work;
3. All claims and indebtedness for material and labor and other service performed in connection with these specifications have been paid;
4. All moneys due the Industrial Accident Fund (ORS 279B.220), the State of Oregon Unemployment Compensation Trust Fund (ORS 279B.230), the State Department of Revenue (ORS 316.162 to 316.212), hospital associations, and/or others (ORS 279B.230) have been paid;
5. All private property and easement areas have been satisfactorily restored in accordance with the Contract requirements.

By: _____ Dated: _____
Contractor's Project Manager

The City hereby accepts the project as complete in compliance with the plans, specifications, and contract documents and accepts the above Contractor Certification of Compliance.

CITY OF WILSONVILLE

By: _____ Dated: _____
Project Manager

*Unless stated differently in the Contract Documents, the date of signing by the City Project Manager constitutes the beginning of the two (2) year bonded warranty period.

CITY OF WILSONVILLE • COMMUNITY DEVELOPMENT

Phone 503-682-4960
Fax 503-682-7025

29799 SW Town Center Loop East
Wilsonville, OR 97070

www.ci.wilsonville.or.us
info@ci.wilsonville.or.us

-- This page intentionally left blank --

Appendix C – Bonds

-- This page intentionally left blank --

PERFORMANCE BOND
(Capital Projects)

BOND NO. _____
PREMIUM: \$ _____

KNOW ALL MEN BY THESE PRESENTS, that we, _____,
as Principal, and _____ (“Surety”), a company duly organized
and licensed to do business in the State of _____, and duly licensed to conduct business as a
Surety under the laws of the State of Oregon, are held and firmly bound unto the City of Wilsonville, as Obligee,
in the penal sum of _____ Dollars
(\$ _____) lawful money of the United States, for the payment of which sum well and truly to be
made, we bind ourselves, our heirs, administrators, executors, successors, and assigns, jointly and severally,
firmly by these presents.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT, WHEREAS, said Principal has entered into a
contractual agreement, including all exhibits attached thereto and all documents incorporated by reference
therein (collectively referred to herein as the “Agreement”), with said Obligee, which Agreement is identified as
_____ (“Project”),
pursuant to which said Principal undertakes and agrees to perform all labor and furnish all equipment and
material, in accordance with all the terms and conditions set forth in said Agreement; and to save harmless the
Obligee from any claim for damages or injury to property or persons arising by reason of said work, as set out
more fully in said Agreement; and to do and perform all things in said Agreement as required, in the time and
manner and under the terms and conditions therein set forth; and in conformity with all laws, state and
national, applicable thereto.

NOW, THEREFORE, if the said Principal shall well and truly do and perform all the covenants and obligations of
said Agreement on its part to be done and performed at the time and in the manner specified therein, and in all
respects according to their true intent and meaning, and shall defend, indemnify, and save harmless the Obligee,
its officers, agents, and employees, as therein stipulated, only then this obligation shall be null and void;
otherwise, it shall be and remain in full force and effect. The completion of all such covenants and obligations
shall only be considered to have occurred upon the written final acceptance of all Project work by Obligee and
the expiration of any warranty period, as provided under the Agreement.

The Surety hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms
of said Agreement or the specifications accompanying the same shall in any manner affect its obligations under
this Bond and it does hereby waive notice of any such change, extension, alteration, or addition to the terms of
the Agreement or to the work or to the specifications.

If the Principal shall be declared to be in default in the performance of any part of the Agreement, the Surety
must, within the same time frame allowed to the Principal, cure or cause to be cured the default or must
otherwise immediately pay the entire penal sum of the Bond to the Obligee.

This obligation also includes the obligation to promptly pay, as due, payment to any person, co-partnership,
association, or corporation furnishing medical, surgical, and hospital care or other needed care and attention
incidental to sickness or injury to the employees of said Principal, pursuant to the laws of Oregon, or collected or
deducted from the wages of said employees pursuant to any law, contract, or agreement for the purpose of
providing or paying for such services, and shall do all things required of said Principal by the laws of Oregon.

The Surety acknowledges that the Surety shall not be entitled to assert any defense for failure of performance that the Principal might have by operation of law.

As a part of the obligation secured hereby, and in addition to the penal sum specified thereunder, there shall be included all reasonable costs, expenses, and fees ("Costs"), including reasonable attorney fees, incurred by the Obligee in enforcing the obligations described herein, all to be included in any judgment rendered, and which shall bear interest at the judgment rate then in effect until paid in full.

Except for Costs and attorney fees, which shall be in addition thereto, the Surety's obligation shall not exceed the penal sum of the Bond.

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

Signed and sealed on _____, 20__.

PRINCIPAL NAME:

By: _____

Print Name: _____

As Its: _____

SURETY NAME:

By: _____

Print Name: _____

As Its: Attorney in Fact

The attorney-in-fact who executes this Bond on behalf of the surety company must attach a copy of his/her power-of-attorney as evidence of his/her authority.

To each executed original of this Bond, there must be attached a complete set of the contract documents, as the term is defined in the "Standard Specifications and Special Provisions," with all corrections, interlineations, signatures, etc., completely reproduced therein.

PAYMENT BOND

BOND NO. _____

KNOW ALL MEN BY THESE PRESENTS, that we, _____,
as Principal, and _____ ("Surety"), a corporation duly
organized and licensed to do business in the State of _____, and duly licensed to conduct business as
a Surety under the laws of the State of Oregon, are jointly and severally held and firmly bound unto the City of
Wilsonville, as Obligee, in the sum of _____ Dollars
(\$ _____) lawful money of the United States, for the payment of which sum we jointly and
severally bind ourselves and our respective heirs, executors, administrators, successors, and assigns, firmly by
these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the Principal herein, on the _____ day of
_____, 20____, has entered into a contract with the Obligee whereby said Principal
undertakes to promptly make payment for all labor, services, and materials; all sums due the Workers'
Compensation Board or equivalent, the collector of internal revenue, the unemployment compensation trust
fund, and the treasurer of the State of Oregon; in conformity with all laws, state and national, applicable
thereto.

NOW, THEREFORE, if the Principal herein shall promptly pay all persons furnishing labor, services, and materials,
and sums due for workers' compensation insurance or equivalent, social security and unemployment
compensation, sums due to the Department of Revenue, to him and to his subcontractor, or to their assigns, on
or about said work, then this obligation shall be null and void; otherwise, it shall be and remain in full force and
effect.

PROVIDED, HOWEVER, that this Bond is subject to the following conditions:

(a) All materialmen, and all persons who shall supply such laborers, mechanics, or subcontractors
with material, supplies, or provisions for carrying on such work, shall have a direct right of action against the
Principal and Surety on this Bond, second only to the right of the Obligee under this Bond, which right of action
shall be asserted in proceedings instituted in the appropriate court in the State of Oregon, and insofar as
permitted by the laws of Oregon, such right of action shall be asserted in a proceeding instituted in the name of
the Obligee to the use and benefit of the person, firm, or corporation instituting such action and of all other
persons, firms, or corporations having claims hereunder, and any other person, firm, or corporation having a
claim hereunder shall have the right to be made a party to such proceeding (but not later than one year after
the complete performance of said contract and final acceptance of the work in the contract) and to have such
claim adjudicated in such action and judgment rendered thereon.

(b) The Surety, for the value received, hereby stipulates and agrees that no change, extension of
time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the
specifications accompanying the same shall in any way affect its obligations under this Bond and it does hereby
waive notice of any such change, extension of time, alteration, or addition to the terms of the contract or to the
work or to the specifications.

(c) The Principal herein shall faithfully and truly observe and comply with the terms of the contract
and shall promptly make payments to all persons supplying labor or material for any prosecution of the work
provided for in such contract and shall not permit any lien or claim to be filed or prosecution against the Obligee

on account of any labor or material furnished, and shall promptly pay all contributions or amounts due the Workers' Compensation Board or equivalent and all contributions or amounts due the state employment compensation trust fund incurred in the performance of said contract, and shall also pay all sums of money withheld from the employees and payable to the state tax commission pursuant to ORS 316.711, and shall do all things required of said Principal by the laws of the State of Oregon.

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

SIGNED, SEALED, AND DATED this ____ day of _____, 20__.

PRINCIPAL NAME:

By: _____

Print Name: _____

As Its: _____

SURETY NAME:

By: _____

Print Name: _____

As Its: Attorney in Fact

The attorney-in-fact who executes this Bond on behalf of the surety company must attach a copy of his/her power-of-attorney as evidence of his/her authority.

To each executed original of this Bond, there must be attached a complete set of the contract documents, as the term is defined in the "Standard Specifications and Special Provisions," with all corrections, interlineations, signatures, etc., completely reproduced therein.

**PUBLIC WORKS CONSTRUCTION
WARRANTY AND MAINTENANCE BOND**
(Capital Projects)

Bond # _____

_____, as Principal, and _____, a corporation organized under the State of _____ and authorized to transact surety business in the State of Oregon, as Surety, declare that they, their heirs, administrators, successors, and assigns are jointly and severally bound unto the City of Wilsonville, Oregon, Obligee, in the sum of _____ Dollars and ___/100 (\$ _____), for which we agree payment will be made upon demand if Principal fails to meet the obligations as described below.

The Principal has constructed certain public works improvements for a project known as: _____, and identified by the City of Wilsonville as File No. _____. These improvements, as shown in the as-built project plans, were accepted by the City of Wilsonville on _____. As a requirement of the Construction Documents for the Project, and to ensure post-construction quality and landscape survivability, the Principal has agreed, as a condition of final approval of said public works construction, to warrant to the City of Wilsonville that the construction is, and will remain for a period of two (2) years from the date of acceptance, free from defects in material and workmanship and that all landscaping, as shown in the as-built project plans, will be maintained in good condition and replaced, as needed, per the Contract Documents. This warranty by the Principal is in addition to and not in lieu of any other warranties provided by various suppliers or manufacturers.

The condition of the obligation is such that if Principal shall fully perform according to the terms of the as-built project plans and the warranty described above, and if no claim on said warranty is unsatisfied at the conclusion of thirty (30) days following the two (2) year warranty period, then this obligation shall be void, otherwise to remain in full force and effect.

The amount of this bond in no way limits Principal's liability to the City of Wilsonville.

(Project Name)

Date: _____

PRINCIPAL:

CORPORATE SURETY

By: _____

By: _____

Print Name: _____

Print Name: _____

As Its: _____
(title)

As Its: _____
(title)

(Address)

(City, State, Zip)

To be completed by City:

File No.: _____

Date of Acceptance of Construction: _____

-- This page intentionally left blank --